



San Francisco Bay Area Toll Bridge Seismic Retrofit and Regional Measure 1 Programs

Project Progress and
Financial Update
September 2011



**TOLL BRIDGE PROGRAM
OVERSIGHT COMMITTEE**

CALTRANS BAY AREA TOLL AUTHORITY CALIFORNIA TRANSPORTATION COMMISSION

Released: October 2011

View from the west to the east overlooking the Yerba Buena Island Transition Structure Contract #1 on the left and Yerba Buena Island Detour on right





Self-Anchored Suspension Bridge Shear-Leg Crane Barge
Hoisting Roadway Box 13 Westbound

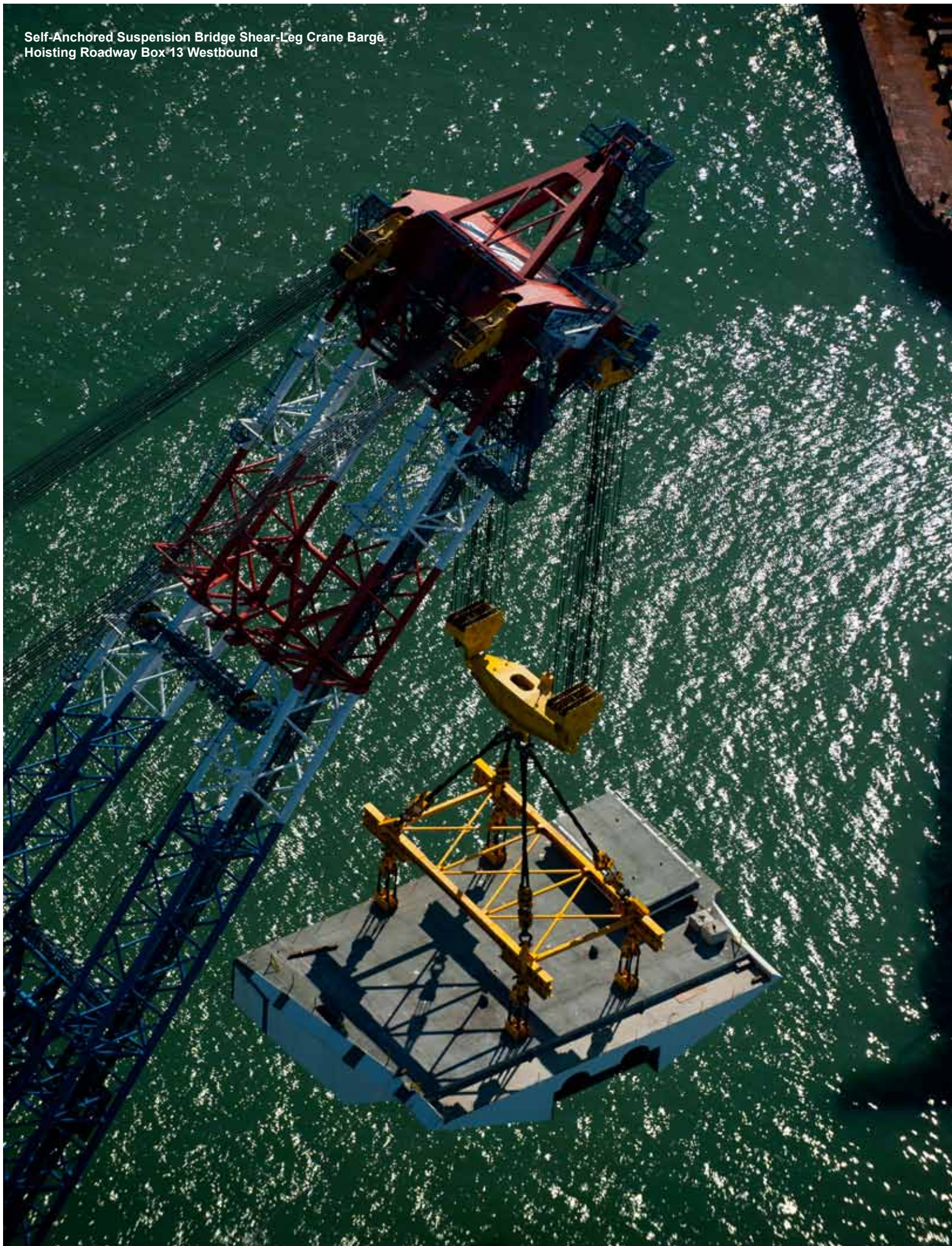
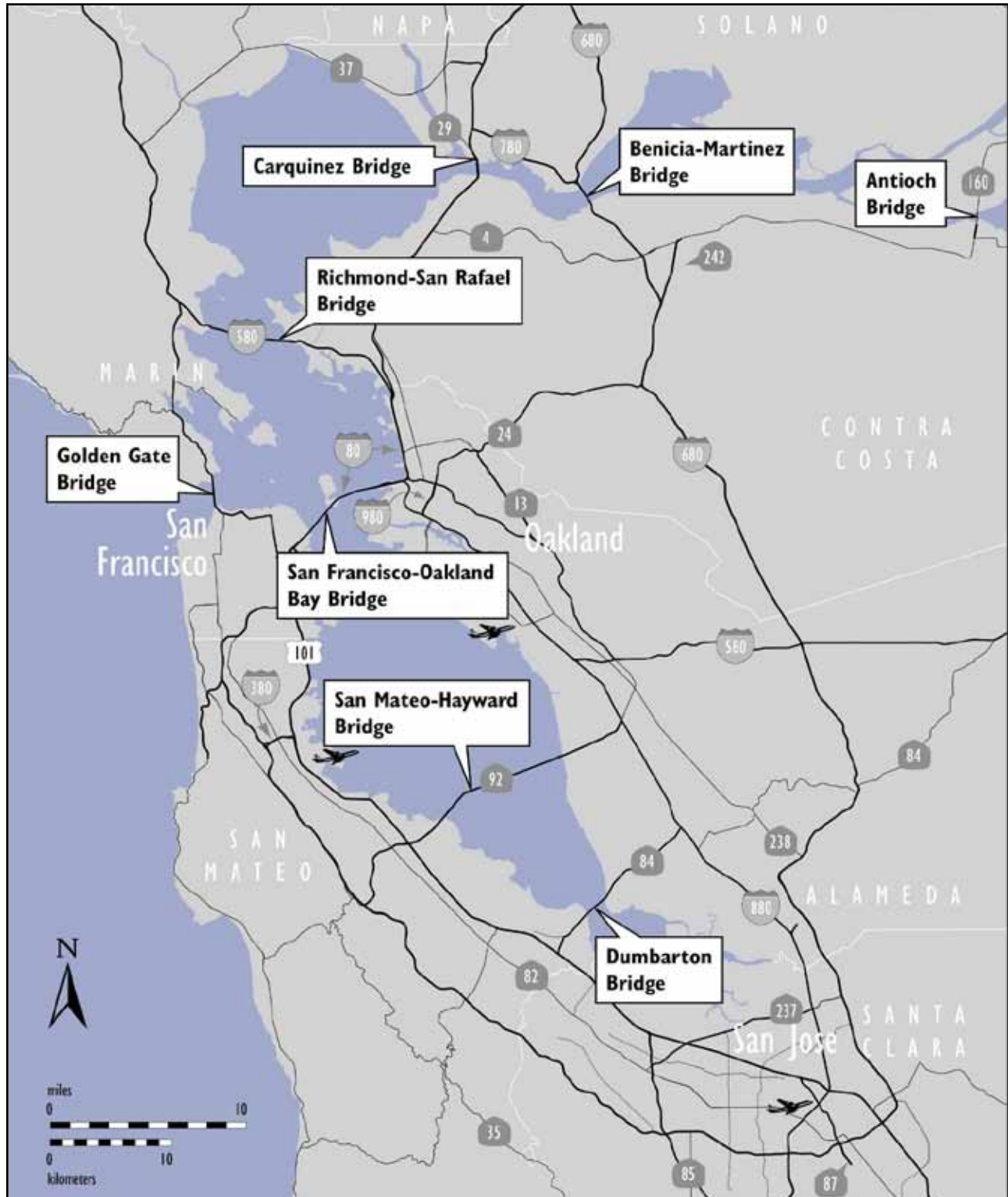


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Map of Bay Area Toll Bridges



* The Golden Gate Bridge is owned and operated by the Golden Gate Bridge, Highway, and Transportation District.

Introduction

In July 2005, Assembly Bill (AB) 144 (Hancock) created the Toll Bridge Program Oversight Committee (TBPOC) to implement a project oversight and project control process for the new Benicia-Martinez Bridge and State Toll Bridge Seismic Retrofit Program projects. The TBPOC consists of the Director of Caltrans, the Executive Director of the Bay Area Toll Authority (BATA) and the Executive Director of the California Transportation Commission (CTC). The TBPOC's project oversight and control processes include, but are not limited to, reviewing bid specifications and documents, reviewing and approving significant change orders and claims in excess of \$1 million (as defined by the Committee), and keeping the Legislature and others apprised of current project progress and status. In January 2010, Assembly Bill (AB) 1175 (Torlakson) amended the TBSRP to include the Antioch and Dumbarton Bridges seismic retrofit projects. The current Toll Bridge Seismic Retrofit Program is as follows:

Toll Bridge Seismic Retrofit Projects	Seismic Safety Status
Dumbarton Bridge Seismic Retrofit	Construction
Antioch Bridge Seismic Retrofit	Construction
San Francisco-Oakland Bay Bridge East Span Replacement	Construction
San Francisco-Oakland Bay Bridge West Approach Replacement	Complete
San Francisco-Oakland Bay Bridge West Span Seismic Retrofit	Complete
San Mateo-Hayward Bridge Seismic Retrofit	Complete
Richmond-San Rafael Bridge Seismic Retrofit	Complete
1958 Carquinez Bridge Seismic Retrofit	Complete
1962 Benicia-Martinez Bridge Seismic Retrofit	Complete
San Diego-Coronado Bridge Seismic Retrofit	Complete
Vincent Thomas Bridge Seismic Retrofit	Complete

The New Benicia-Martinez Bridge is part of a larger program of toll-funded projects called the Regional Measure 1 (RM1) Toll Bridge Program under the responsibility of BATA and Caltrans. While the rest of the projects in the RM1 program are not directly under the responsibility of the TBPOC, BATA and Caltrans will continue to report on their progress as an informational item. The RM1 program includes:

Regional Measure 1 Projects	Open to Traffic Status
Interstate 880/State Route 92 Interchange Reconstruction	Construction
1962 Benicia-Martinez Bridge Reconstruction	Open
New Benicia-Martinez Bridge	Open
Richmond-San Rafael Bridge Deck Overlay Rehabilitation	Open
Richmond-San Rafael Bridge Trestle, Fender & Deck Joint Rehabilitation	Open
Westbound Carquinez Bridge Replacement	Open
San Mateo-Hayward Bridge Widening	Open
State Route 84 Bayfront Expressway Widening	Open
Richmond Parkway	Open

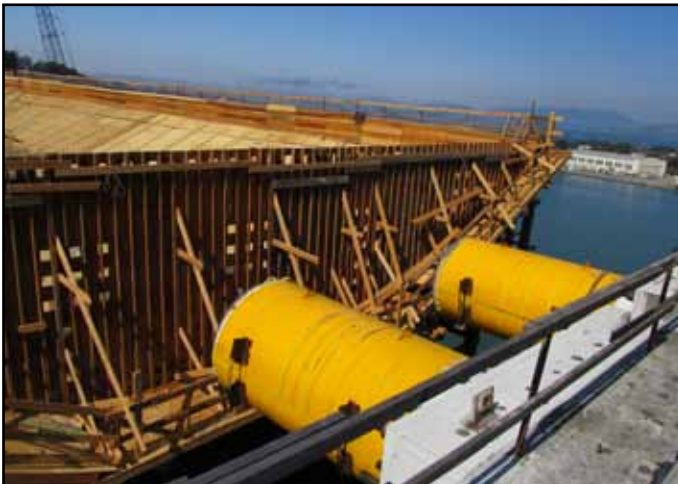
SUMMARY OF MAJOR PROJECT HIGHLIGHTS, ISSUES, AND ACTIONS



Shear-Leg Barge Crane Hoisting Roadway Box 14 Eastbound



Shear-Leg Barge Crane Hoisting the Final Roadway Boxes and Components



Hinge K Interface between SAS and YBITS#1 Westbound

Toll Bridge Seismic Retrofit Program Risk Management

A major element of the 2005 AB144, the law creating the TBPOC, was legislative direction to implement a more aggressive risk management program. Such a program has been implemented in stages over time to ensure development of a robust and comprehensive approach to risk management.

A comprehensive risk assessment is performed for each project in the program on a quarterly basis. Based upon those assessments, a forecast is developed using the average cost of risk. These forecasts can both increase and decrease as risks are identified, resolved or retired. Nonetheless, assurances have been made that the public is informed of the risks that have been identified and the possible expense they could necessitate.

As of the end of the second quarter of 2011, the 50 percent probable draw on program contingency is \$200 million. The potential draw ranges from \$60 million to \$300 million.

The \$308 million program contingency balance can be used to cover the costs of identified risks. In accordance with the approved TBSRP Risk Management Plan, risk mitigation actions are continuously developed and implemented to reduce the potential draw on the program contingency.

San Francisco-Oakland Bay Bridge (SFOBB) East Span Seismic Replacement Project SAS Superstructure Contract

The prime contractor constructing the Self-Anchored Suspension (SAS) Bridge from the completed Skyway to Yerba Buena Island is a joint venture of American Bridge/Fluor (ABF). Significant progress is being made both in the Bay Area and around the world.

The structural elements of the main tower are now complete with the saddle in place. Just shy of its 525-foot apex, the signature tower will be crowned with a decorative head after the cable is installed early next year.

Installation of four catwalks from the roadway to the top of the tower is complete. The first 24 of 28 steel roadway boxes were installed as of the end of June 2011. The remaining four roadway boxes arrived in the Bay Area on August 28, 2011 and will be installed in September and October 2011.

These boxes, fabricated in Shanghai, China, join other bridge components that have been arriving from around the country and the world. All bridge components undergo a rigorous quality review by the fabricator, ABF, and Caltrans to ensure that only bridge components that have been built in accordance to the specifications will be shipped. The TBPOC's goal is to open the bridge to traffic in both directions by December 2013.

Yerba Buena Island Transition Structures #1 Contract

The YBITS#1 contract has been awarded to MCM Construction, Inc., the same contractor that completed the Oakland Touchdown (OTD) #1 contract. The MCM contract includes completing the remaining foundations and the bridge deck structure from the Yerba Buena Island Tunnel to the Self-Anchored Suspension (SAS) bridge.

Work is focused on the westbound transition structure's substructure and superstructure from the tunnel to the Self-Anchored Suspension bridge as shown in the picture below.



YBITS #1 Westbound Formwork, Rebar and Concrete Progress

SUMMARY OF MAJOR PROJECT HIGHLIGHTS, ISSUES, AND ACTIONS



Oakland Detour - Westbound Work in Progress



Oakland Detour



Antioch Bridge

Oakland Detour

The detour realigns the existing bridge approach to the south to allow for construction of the remaining portion of OTD #2 that was in conflict with the existing bridge. The eastbound detour was completed on May 30, 2011. The westbound detour is forecast to open at the beginning of spring 2012.

Oakland Touchdown #2 Contract

The OTD #2 contract for construction will be advertised in October 2011 and awarded in April 2012.

Existing SFOBB Dismantling

To expedite opening of a new eastbound on ramp and the pedestrian/bicycle pathway from Yerba Buena Island, the TBPOC has decided to split the bridge dismantling project into at least two contracts. The dismantling of the superstructure of the main cantilever section of the existing bridge will be incorporated into the YBITS #2 contract, while the remaining portions of the existing bridge will be removed by separate contract or contracts yet to be determined.

Antioch Bridge Seismic Retrofit

The major retrofit strategy for the bridge includes installing seismic isolation bearings at each of the 41 piers, strengthening piers 12 through 31 with steel cross-bracing between column bents and installing steel casings at all columns located at the Sherman Island approach slab bridge. See project progress on page 38.

Dumbarton Bridge Seismic Retrofit

The Dumbarton bridge is a combination of three bridge types; reinforced concrete slab approaches supported on multiple pile extension columns, precast - prestressed concrete girders, and steel box girders supported on reinforced concrete piers. The retrofit strategy for the bridge includes superstructure and deck modifications and installation of isolation bearings. See project progress on page 40.

TBSRP Capital Outlay Support

The capital outlay support (COS) budget, originally established as a part of AB 144 in 2005, was based



Antioch Bridge - Cross Frames Installed between Bent Columns

on a schedule that assumed bridge opening in 2012. After the SAS contract was rebid, interested contractors requested an additional year to be added to the schedule. To ensure a competitive bidding pool, the TBPOC changed the approved schedule to reflect bridge opening in 2013, but delayed increasing the COS budget to cover the project extension with the belief that an accelerated early completion was still possible and that COS costs could be contained. Since that time, early completion has not materialized and the TBPOC has subsequently approved COS budget increases to be funded from the COS reserves set aside within the original program contingency for project extensions or delays. Opportunities to economize and reduce costs in this area will continue to be pursued. However, additional COS is forecast to be needed from the program contingency.



Aerial View of the Dumbarton Bridge

TBSRP Programmatic Risks

This category includes risks that are not yet scoped within existing contracts and/or that spread across multiple contracts. The interdependencies between all of the contracts in the program result in the potential for one contract's delay to impact the entire program that are accounted for in the net programmatic risks.

Regional Measure 1 Toll Bridge Program (RM1)

Interstate 880/State Route 92 Interchange Reconstruction Project

The project is forecast to be substantially completed in September 2011 pending weather or unforeseen construction delays.



92/880 NWCONN On Ramp

Toll Bridge Seismic Retrofit Program Cost Summary

	Contract Status	AB 144/SB 66 Budget (August 2005)	TBPOC Approved Changes	Current TBPOC Approved Budget (August 2011)	Cost to Date (August 2011)	Current Cost Forecast (August 2011)	Cost Variance	Cost Status
		a	b	c = a + b	d	e	f = e - c	
SFOBB East Span Seismic Replacement								
Capital Outlay Construction								
Skyway	Completed	1,293.0	(38.9)	1,254.1	1,237.1	1,245.2	(8.9)	●
SAS Marine Foundations	Completed	313.5	(32.6)	280.9	274.8	278.6	(2.3)	●
SAS Superstructure	Construction	1,753.7	293.1	2,046.8	1,564.9	2,078.9	32.1	●
YBI Detour	Completed	131.9	360.9	492.8	465.9	482.8	(10.0)	●
YBI Transition Structures (YBITS)		299.3	(51.5)	247.8	55.4	305.1	57.3	●
YBITS 1	Construction			185.5	55.4	222.4	36.9	●
YBITS 2	Design			59.0	-	79.4	20.4	●
YBITS Landscaping	Design			3.3	-	3.3	-	●
Oakland Touchdown (OTD)		283.8	55.2	339.0	209.4	333.9	(5.1)	●
OTD 1	Completed			212.0	202.9	203.3	(8.7)	●
OTD 2	Design			62.0	-	58.6	(3.4)	●
Detour	Construction			51.0	-	58.0	7.0	●
OTD Electrical Systems	Design			4.4	-	4.4	-	●
Submerged Electric Cable	Completed			9.6	6.5	9.6	-	●
Existing Bridge Demolition	Design	239.2	(0.1)	239.1	-	250.8	11.7	●
Stormwater Treatment Measures	Completed	15.0	3.3	18.3	16.8	18.3	-	●
Other Completed Contracts	Completed	90.4	-	90.4	89.9	90.4	-	●
Capital Outlay Support		959.3	218.0	1,177.3	988.7	1,275.8	98.5	●
Right-of-Way and Environmental Mitigation		72.4	-	72.4	51.7	80.4	8.0	●
Other Budgeted Capital		35.1	(3.3)	31.8	0.7	7.7	(24.1)	●
Total SFOBB East Span Replacement		5,486.6	804.1	6,290.7	4,955.3	6,447.9	157.2	
Antioch Bridge Seismic Retrofit								
Capital Outlay Construction and Mitigation	Construction		70.0	70.0	33.2	56.9	(13.1)	●
Capital Outlay Support			31.0	31.0	20.4	34.7	3.7	●
Total Antioch Bridge Seismic Retrofit		-	101.0	101.0	53.6	91.6	(9.4)	
Dumbarton Bridge Seismic Retrofit								
Capital Outlay Construction and Mitigation	Construction		92.7	92.7	16.1	88.8	(3.9)	●
Capital Outlay Support			56.0	56.0	28.3	57.2	1.2	●
Total Dumbarton Bridge Seismic Retrofit		-	148.7	148.7	44.4	146.0	(2.7)	
Other Program Projects		2,268.4	(64.6)	2,203.8	2,161.5	2,191.7	(12.1)	●
Miscellaneous Program Costs		30.0	-	30.0	25.5	30.0	-	●
Net Programmatic Risks		-	-	-	-	66.9	66.9	●
Program Contingency		900.0	(592.2)	307.8	-	107.9	(199.9)	●
Total Toll Bridge Seismic Retrofit Program²		8,685.0	397.0	9,082.0	7,240.3	9,082.0	-	

- Within approved schedule and budget
 - Identified potential project risks that could significantly impact approved schedules and budgets if not mitigated
 - Known project impacts with forthcoming changes to approved schedules and budgets
- ² Figures may not sum up to totals due to rounding effects.

Toll Bridge Seismic Retrofit Program Schedule Summary

	AB144/SB 66 Project Completion Schedule Baseline (July 2005)	TBPOC Approved Changes (Months)	Current TBPOC Approved Completion Schedule (August 2011)	Current Completion Forecast (August 2011)	Schedule Variance (Months)	Schedule Status	Remarks/Notes
	g	h	i = g + h	j	k = j - i	l	
SFOBB East Span Seismic Replacement							
Contract Completion							
Skyway	Apr 2007	8	Dec 2007	Dec 2007	-	●	See Page 32
SAS Marine Foundations	Jun 2008	(5)	Jan 2008	Jan 2008	-	●	See Page 18
SAS Superstructure	Mar 2012	29	Aug 2014	Aug 2014	-	●	See Page 19
YBI Detour	Jul 2007	41	Dec 2010	Oct 2010	(2)	●	See Page 15
YBI Transition Structures (YBITS)	Nov 2013	12	Nov 2014	Mar 2015	4		See Page 16
YBITS 1			Sep 2013	Dec 2013	3	●	
YBITS 2			Nov 2014	Mar 2015	4	●	
YBITS Landscaping			TBD	TBD	-	●	
Oakland Touchdown	Nov 2013	12	Nov 2014	Nov 2014	-		See Page 33
OTD 1			Jun 2010	Jun 2010	-	●	
OTD 2			Nov 2014	Nov 2014	-	●	
OTD Electrical Systems			TBD	TBD	-	●	
Submerged Electric Cable			Jan 2008	Jan 2008	-	●	
Existing Bridge Demolition	Sep 2014	12	Sep 2015	Dec 2015	3	●	
Stormwater Treatment Measures	Mar 2008		Mar 2008	Mar 2008	-	●	
SFOBB East Span Bridge Opening and Other Milestones							
Westbound Seismic Safety Open	Sep 2011	27	Dec 2013	Dec 2013	-	●	
Eastbound Seismic Safety Open	Sep 2012	15	Dec 2013	Dec 2013	-		
Oakland Detour Eastbound Open			May 2011	May 2011	-	●	
Oakland Detour Westbound Open			Feb 2012	Feb 2012	-	●	
OTD Westbound Access			Aug 2009	Aug 2009	-	●	
YBI Detour Open			Sep 2009	Sep 2009	-	●	See Page 15
Antioch Bridge Seismic Retrofit							
Contract Completion			Aug 2012	May 2012	(3)	●	See Page 36
Dumbarton Bridge Seismic Retrofit							
Contract Completion			Sep 2013	Sep 2013	-	●	See Page 38

Regional Measure 1 Program Cost Summary

	Contract Status	BATA Baseline Budget (July 2005)	BATA Approved Changes	Current BATA Approved Budget (August 2011)	Cost to Date (August 2011)	Current Cost Forecast (August 2011)	Cost Variance	Cost Status
		a	b	c = a + b	d	e	f = e - c	
Interstate 880/Route 92 Interchange Reconstruction								
Capital Outlay Construction	Construction	94.8	68.4	163.2	140.8	163.2	-	●
Capital Outlay Support		28.8	35.8	64.6	60.4	64.6	-	●
Capital Outlay Right-of-Way		9.9	7.3	17.2	14.6	17.2	-	●
Project Reserve		0.3	(0.3)	-	-	-	-	
Total I-880/SR-92 Interchange Reconstruction		133.8	111.2	245.0	215.8	245.0	-	
Other Completed Program Projects		1,978.8	182.6	2,161.4	2,088.5	2,161.4	-	
Total Regional Measure 1 Toll Bridge Program¹		2,112.6	293.8	2,406.4	2,304.3	2,406.4	-	

- Within approved schedule and budget
 - Identified potential project risks that could significantly impact approved schedules and budgets if not mitigated
 - Known project impacts with forthcoming changes to approved schedules and budgets
- ¹ Figures may not sum up to totals due to rounding effects.

Regional Measure 1 Program Schedule Summary

	BATA Baseline Completion Schedule (August 2005)	BATA Approved Changes (Months)	Current BATA Approved Completion Schedule (August 2011)	Current Completion Forecast (August 2011)	Schedule Variance (Months)	Schedule Status	Remarks/Notes
	g	h	i = g + h	j	k = j - i	l	
Interstate 880/Route 92 Interchange Reconstruction							
Contract Completion							
Interchange Reconstruction	Dec 2010	9	Sep 2011	Sep 2011	-	●	See Page 44



Aerial View of the Existing East and West Spans of the San Francisco-Oakland Bay Bridge and Yerba Buena Island with the New Self-Anchored Suspension Bridge's Tower and Catwalks Illuminated



TOLL BRIDGE SEISMIC RETROFIT PROGRAM

TOLL BRIDGE SEISMIC RETROFIT PROGRAM

San Francisco-Oakland Bay Bridge Seismic Retrofit Strategy

When a 250-ton section of the upper deck of the East Span collapsed during the 7.1-magnitude Loma Prieta Earthquake in 1989, it was a wake-up call for the entire Bay Area. While the East Span quickly reopened within a month, a critical question lingered: How could the Bay Bridge—a vital regional lifeline structure—be strengthened to withstand the next major earthquake? Seismic experts from around the world determined that to make each separate element seismically safe on a bridge of this size, the work must be divided into numerous projects. Each project presents unique challenges. Yet there is one common challenge — the need to accommodate the more than 280,000 vehicles that cross the bridge each day.



West Approach Overview

West Approach Seismic Replacement Project

Project Status: Completed 2009

Seismic safety retrofit work on the West Approach in San Francisco, bounded on the west by 5th Street and on the east by the anchorage of the west span at Beale Street, involved completely removing and replacing this one-mile stretch of Interstate 80, as well as six on- and off-ramps within the confines of the West Approach's original footprint. This project was completed on April 8, 2009.

West Span Seismic Retrofit Project

Project Status: Completed 2004

The West Span lies between Yerba Buena Island and San Francisco and is made up of two complete suspension spans connected at a center anchorage. Retrofit work included adding massive amounts of steel and concrete to strengthen the entire West Span, along with new seismic shock absorbers and bracing.



San Francisco-Oakland Bay Bridge West Span



East Span Seismic Replacement Project

Project Status: **In Construction**

Rather than a seismic retrofit, the two-mile long East Span is being completely rebuilt. When completed, the new East Span will consist of several different sections, but will appear as a single streamlined span. The eastbound and westbound lanes of the East Span will no longer include upper and lower decks. The lanes will instead be parallel, providing motorists with expansive views of the bay. These views will also be enjoyed by bicyclists and pedestrians, thanks to a new bike path on the south side of the bridge that will extend all the way to Yerba Buena Island. The new span will be aligned north of the existing bridge to allow traffic to continue to flow on the existing bridge as crews build the new span.

The new span will feature the world's longest Self-Anchored Suspension (SAS) bridge that will be connected to an elegant roadway supported by piers (Skyway), which will gradually slope down toward the Oakland shoreline (Oakland Touchdown). A new transition structure on Yerba Buena Island (YBI) will connect the SAS to the YBI Tunnel and will transition the East Span's side-by-side traffic to the upper and lower decks of the tunnel and West Span.

When construction of the new East Span has been completed and vehicles have been safely rerouted to it, the original East Span will be demolished.



Architectural Rendering of the New East Span of the San Francisco-Oakland Bay Bridge



TOLL BRIDGE SEISMIC RETROFIT PROGRAM

San Francisco-Oakland Bay Bridge East Span Replacement Project Summary

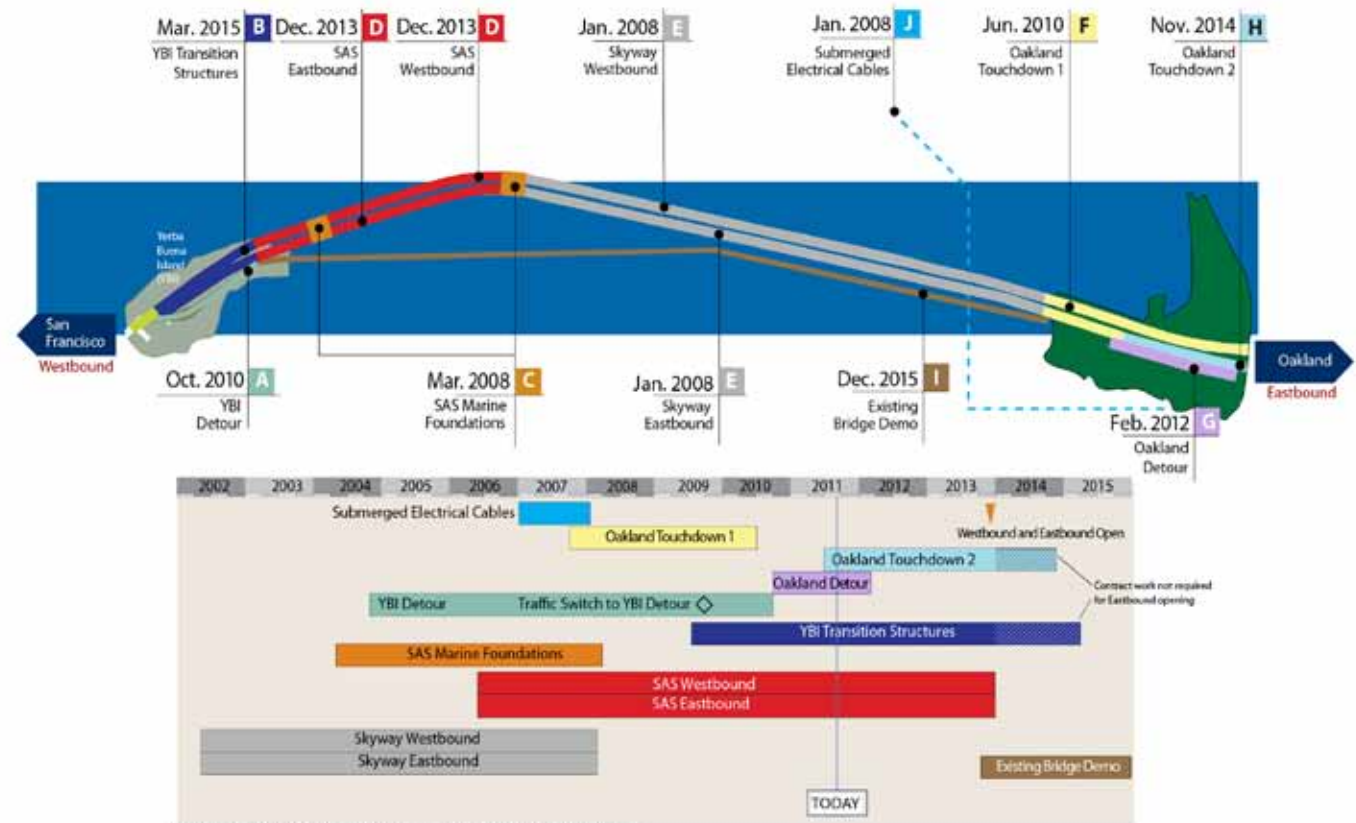
The new East Span bridge can be split into four major components—the Skyway and the Self-Anchored Suspension bridge in the middle and the Yerba Buena Island Transition Structures and Oakland Touchdown approaches at either end. Each component is being constructed by one to three separate contracts that have been sequenced together to reduce schedule risk.

Highlighted below are the major East Span contracts and their schedules. The letter designation before each contract corresponds to contract descriptions in the report.



Overview of the San Francisco-Oakland Bay Bridge East Span Construction Progress

SFOBB East Span Work Sequence



TOLL BRIDGE SEISMIC RETROFIT PROGRAM

San Francisco-Oakland Bay Bridge East Span Replacement Project Yerba Buena Island Detour (YBID)

As with all of the Bay Bridge's seismic retrofit projects, crews must build the Yerba Buena Island Transition Structures (YBITS) without disrupting traffic. To accomplish this task, YBID eastbound and westbound traffic was shifted off the existing roadway and onto a temporary detour on Labor Day weekend 2009. Drivers will use this detour, just south of the original roadway, until traffic is moved onto the new East Span.

A YBID Contract

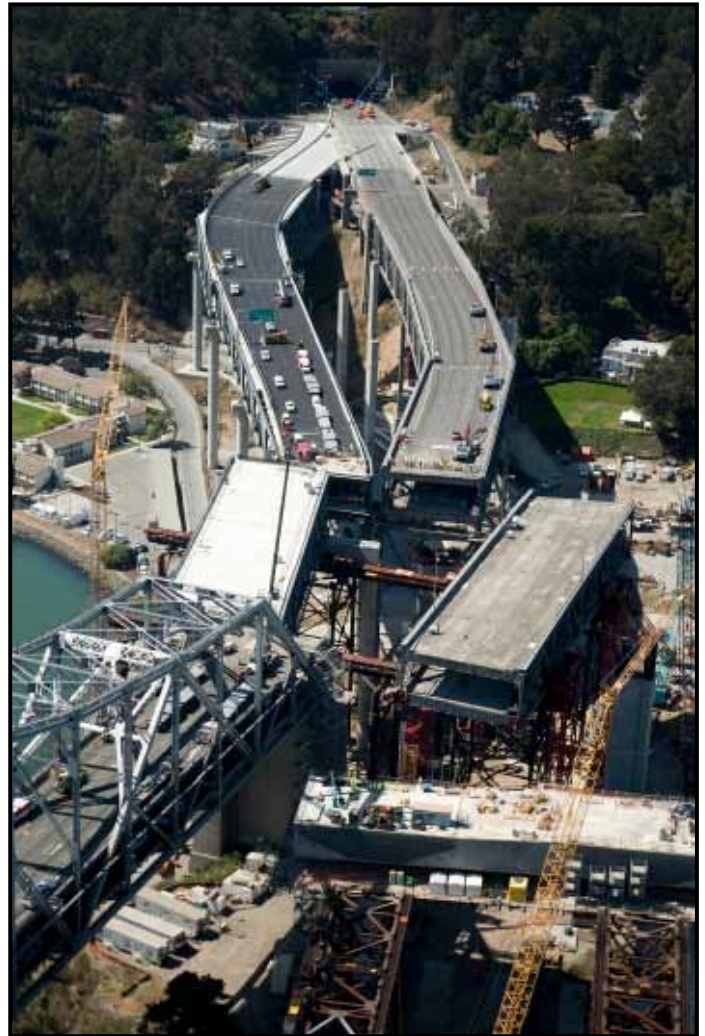
Contractor: C.C. Myers, Inc.

Approved Capital Outlay Budget: \$492.8 M

Status: Completed October 2010

This contract was originally awarded in early 2004 to construct the detour structure for the planned 2006 opening of the new East Span. Due to the re-advertisement of the SAS Superstructure contract in 2005 because of a lack of funding at the time, the bridge opening was rescheduled to 2013. To better integrate the contract into the current East Span schedule and to improve seismic safety and mitigate future construction risks, the TBPOC has approved a number of changes to the contract, including adding the deck replacement work near the tunnel that was rolled into place over Labor Day weekend 2007, advancing future transition structure foundation work and making design enhancements to the temporary detour structure. These changes have increased the budget and forecast for the contract to cover the revised project scope and reduce project risks.

Status: Completed.



YBID East Tie-In Rolled in on Labor Day 2009 Weekend



West Tie-In Phase #1 Rolled in on Labor Day Weekend 2007

TOLL BRIDGE SEISMIC RETROFIT PROGRAM

San Francisco-Oakland Bay Bridge East Span Replacement Project Yerba Buena Island Transition Structures (YBITS)

The new Yerba Buena Island Transition Structures (YBITS) will connect the new SAS bridge span to the existing Yerba Buena Island Tunnel, transitioning the new side-by-side roadway decks to the upper and lower decks of the tunnel. The new structures will be cast-in-place reinforced concrete structures that will look very similar to the already constructed Skyway structures. While some YBITS foundations and columns have been advanced by the YBID contract, the remaining work will be completed under three separate YBITS contracts.

B YBITS #1 Contract

Contractor: MCM Construction, Inc.

Approved Capital Outlay Budget: **\$185.5 M**

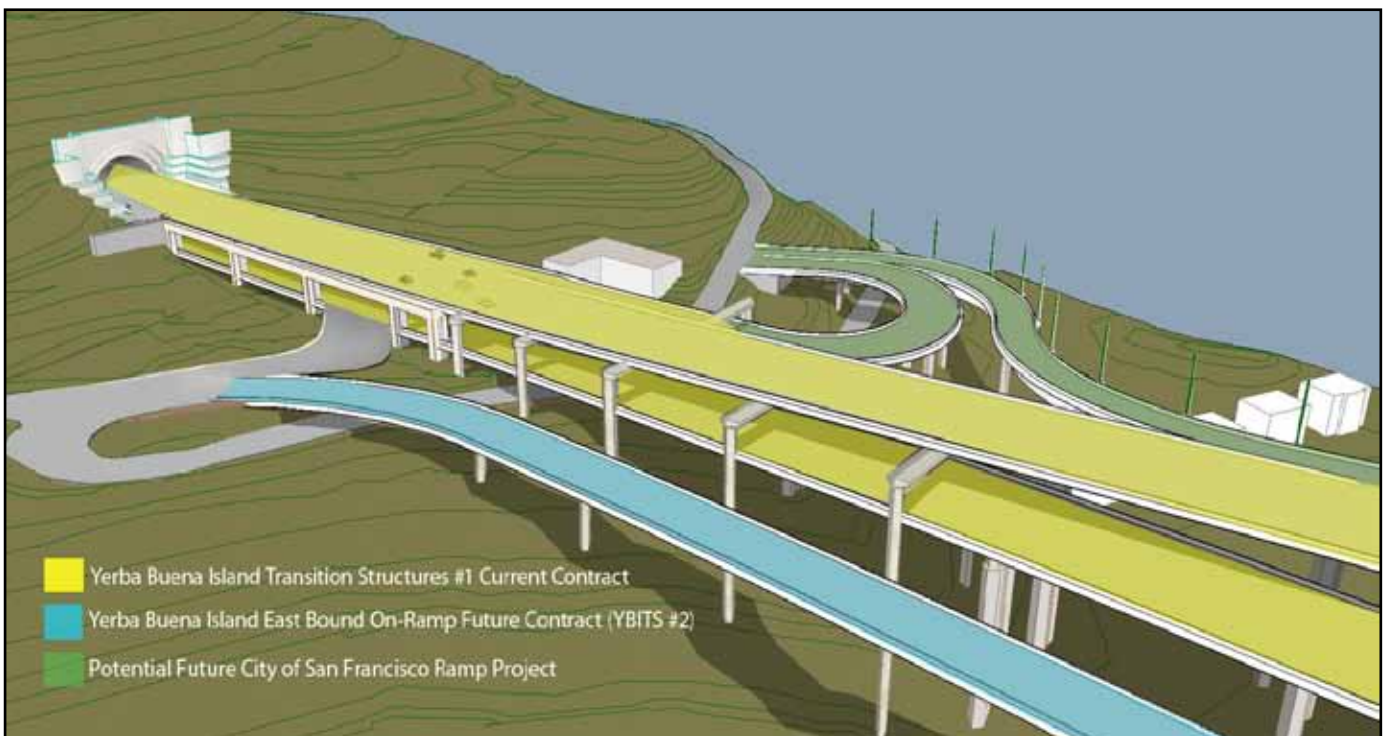
Status: **30% Complete as of August 2011**



Overview of the Yerba Buena Island Westbound Transition Structure on left and Yerba Buena Island Temporary Detour on right

The YBITS #1 contract will construct the mainline roadway structure from the SAS bridge to the YBI tunnel. On February 4, 2010, Caltrans awarded the YBITS #1 Contract to MCM Construction, Inc.

Status: Construction of the eastbound and westbound footings and columns is complete. Work continues on frames 1 and 2 westbound formwork, rebar installation and concrete placement for the stem walls and soffit.



YBITS #2 Contract

Contractor: TBD

Approved Capital Outlay Budget: \$59.0 M

Status: **In Design**

The YBITS #2 contract will demolish the detour viaduct after all traffic is shifted to the new bridge and will construct a new eastbound on-ramp to the bridge in its place. The new ramp will also provide the final link for bicycle/pedestrian access off the SAS bridge onto Yerba Buena Island. To expedite opening of a new eastbound on-ramp and the pedestrian/bicycle pathway from Yerba Buena Island, the TBPOC has decided to split the bridge dismantling project into at least two contracts. The dismantling of the superstructure of the main cantilever section of the existing bridge will be incorporated into the YBITS #2 contract, while the remaining portions of the existing bridge will be removed by separate contract or contracts yet to be determined.

YBITS Landscaping Contract

Contractor: TBD

Approved Capital Outlay Budget \$3.3M

Status: **In Design**

Upon completion of the YBITS work, a follow-on landscaping contract will be executed to replant and landscape the area.

Yerba Buena Island Transition Structures Advanced Work

Due to the re-advertisement of the SAS superstructure contract in 2005, it became necessary to temporarily suspend the detour contract and make design changes to the viaduct. To make more effective use of the extended contract duration and to reduce overall project schedule and construction risks, the TBPOC approved the advancement of foundation and column work from the YBITS contract.

Status: The YBID contractor completed the YBITS advanced substructure work in October 2010.



Yerba Buena Island Transition Structures #1 Advanced Columns in the middle with Westbound Concrete Operations in Progress on the left and Yerba Buena Island Temporary Detour Structure on the right

TOLL BRIDGE SEISMIC RETROFIT PROGRAM

San Francisco-Oakland Bay Bridge East Span Replacement Project Self-Anchored Suspension (SAS) Bridge

If one single element bestows world class status on the new Bay Bridge East Span, it is the Self-Anchored Suspension (SAS) bridge. This engineering marvel will be the world's largest SAS span at 2,047 feet in length, as well as the first bridge of its kind built with a single tower.

The SAS was separated into three separate contracts— construction of the land-based foundations and columns at pier W2; construction of the marine-based foundations and columns at piers T1 and E2; and construction of the SAS steel superstructure, including the tower, roadway, and cabling. Construction of the foundations at pier W2 and at piers T1 and E2 was completed in 2004 and 2007, respectively.



Aerial View of the Self-Anchored Suspension Bridge, the Tower and Catwalks Installed

SAS Land Foundation Contract

Contractor: West Bay Builders, Inc.
Approved Capital Outlay Budget: \$26.4 M
Status: Completed October 2004

The twin W2 columns on Yerba Buena Island provide essential support for the western end of the SAS bridge, where the single main cable for the suspension span will extend down from the tower and wrap around and under the western end of the roadway deck. Each of these huge columns required massive amounts of concrete and steel and are anchored 80 feet into the island's solid bedrock.

C SAS Marine Foundations Contract

Contractor: Kiewit/FCI/Manson, Joint Venture
Approved Capital Outlay Budget: \$280.9 M
Status: Completed January 2008

Construction of the piers at E2 and T1 (see rendering on facing page) required significant on-water resources to drive the foundation support piles down, not only to bedrock, but also through the bay water and mud.

The T1 foundation piles extend 196 feet below the waterline and are anchored into bedrock with heavily reinforced concrete rock sockets that are drilled into the rock. Driven nearly 340 feet deep, the steel and concrete E2 foundation piles were driven 100 feet deeper than the deepest timber piles of the existing east span in order to get through the bay mud and reach solid bedrock.



D SAS Superstructure Contract

Contractor: American Bridge/Fluor Enterprises, Joint Venture

Approved Capital Outlay Budget: \$2.05 B

Status: 75% Complete as of August 2011

The SAS bridge is not just another suspension bridge. Rising 525 feet above mean sea level and embedded in rock, the single-tower SAS span is designed to withstand a massive earthquake. Traditional main cable suspension bridges have twin cables with smaller suspender cables connected to them. While there will appear to be two main cables on the SAS, there will actually only be a single continuous cable. This single cable will be anchored within the eastern end of the roadway, carried over the tower and then wrapped around the two side-by-side decks at the western end.

The single-steel tower is made up of four separate legs connected by shear link beams which function much like a fuse in an electrical circuit. These beams will absorb most of the impact from an earthquake, preventing damage to the tower legs.

The next several pages highlight the construction sequence of the SAS and are followed by detailed updates on specific construction activities.



Architectural Rendering of New Self-Anchored Suspension Span and Skyway

TOLL BRIDGE SEISMIC RETROFIT PROGRAM

Self-Anchored Suspension (SAS) Construction Sequence

STEP 1 - CONSTRUCT TEMPORARY SUPPORT STRUCTURES

Temporary support structures will need to be erected from the Skyway to Yerba Buena Island to support the new SAS bridge during construction.

Status: Foundations and temporary support structures were completed in mid-September 2010.



Step 1

STEP 2 - INSTALL ROADWAYS

The roadway boxes are being lifted into place by using the shear-leg crane barge. The boxes are being bolted and welded together atop the temporary support trusses to form two continuous parallel steel roadway boxes.

Status: Twenty-four of 28 roadway boxes have been erected. Seventeen crossbeams have been installed between the roadway boxes. Roadway boxes 13 and 14 arrived at Pier 7 in Oakland on August 28, 2011. Installation of the bike path decks, service platforms, barriers, and traveler rails continues on the eastbound and westbound roadway decks.



Step 2

STEP 3 - INSTALL TOWER

Each of the four legs of the tower will be erected in four separate lifts. The four tower lifts, the grillage and the tower head will be installed using a temporary erection tower and lifting jacks.

Status: The tower legs, grillage and saddle have been installed. The tower head is on site and will be erected after the cables have been installed in early 2012. Tower pull-back strands are being anchored to the top of the tower deck and tower pull back is planned for early September 2011.



Step 3



STEP 4 - MAIN CABLE AND SUSPENDER INSTALLATION

The main cable will be pulled from the east end of the SAS bridge, over the tower, and wrapped around pier W2 before returning back over the tower to the east end of the SAS bridge deck. Suspenders cables will be added to lift the roadway decks off the temporary support structure.

Status: Cable installation is pending the erection of the cable temporary works and completion of roadway spans. All cables have been fabricated and stored in the warehouse at Pier 7 in Oakland. The catwalks have been installed on the SAS tower to provide safe access for workers who are installing the hauling and tramway systems that will pull the main cable for installation.



STEP 5 - WESTBOUND AND EASTBOUND SEISMIC SAFETY OPENING

The new bridge will now open simultaneously in both the westbound and eastbound directions.

Status: The westbound and eastbound opening is forecast for December 2013.



Aerial View of Current Progress on the Self-Anchored Suspension Bridge

Self-Anchored Suspension (SAS) Superstructure Fabrication Activities

Roadway and Tower Segments

Like giant three-dimensional jigsaw puzzles, the roadway and tower lifts of the SAS bridge are hollow steel shells that are internally strengthened and stiffened by a highly engineered network of welded steel ribs and diaphragms. The use of steel in this manner allows for a strong and yet relatively light and flexible structure to withstand the massive loads placed on the bridge during seismic events.

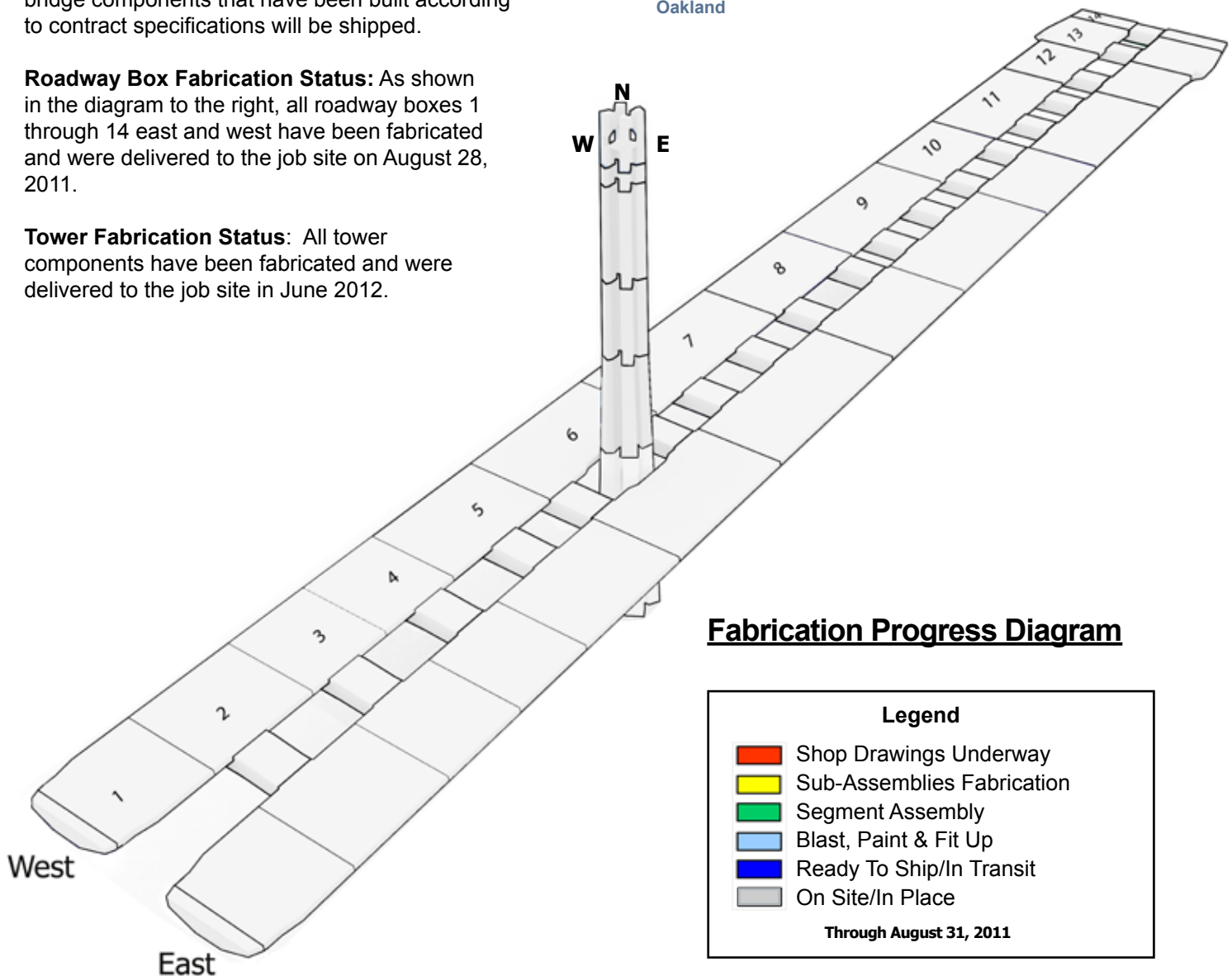
All components undergo a rigorous quality review by ZPMC, ABF, and Caltrans to ensure that only bridge components that have been built according to contract specifications will be shipped.

Roadway Box Fabrication Status: As shown in the diagram to the right, all roadway boxes 1 through 14 east and west have been fabricated and were delivered to the job site on August 28, 2011.

Tower Fabrication Status: All tower components have been fabricated and were delivered to the job site in June 2012.



Off Loading the Final Four Roadway Boxes at Pier 7 in Oakland





The Shear-Leg Barge Crane Off Loading Roadway Box 13 Westbound in Oakland

TOLL BRIDGE SEISMIC RETROFIT PROGRAM

Self-Anchored Suspension (SAS) Superstructure Fabrication Activities (cont.)

Cables and Suspenders

One continuous main cable will be used to support the roadway deck of the SAS bridge. The main cable will be anchored within the westbound roadway box at the east end of the SAS near pier E2, then extend west over the northeast saddle towards the tower saddle at T1. It will then loop around pier W2 westbound deviation saddle, extend through the jacking beam saddle and extend around the eastbound deviation saddle at W2 over the tower saddle at T1 again to the south east saddle and finally anchor within the eastbound roadway box near pier E2. The main cable is made up of 137 bundles of wire strands and a number of smaller suspender ropes will connect the roadway decks to the main cable.

Status: All main cable strands have been fabricated and delivered to the job site and stored at Pier 7 in Oakland. The cable bands are in fabrication and forecast to be completed in fall of 2011. The suspender ropes are in fabrication and forecast to be completed in October 2011.

Saddles, Bearings, Hinges, and Other Bridge Components

The mounts on which the main cable and suspender ropes will sit are solid steel castings. Castings for the main cable saddles were made by Japan Steel Works, while the cable bands and brackets are being made by Goodwin Steel in the United Kingdom.

The bridge bearings and hinges that support, connect, and transfer loads from the Self-Anchored Suspension (SAS) Span to the adjoining sections of the new east span are being fabricated in a number of locations. Work on the bearings is being performed in Pennsylvania, USA and Hochang, South Korea, while hinge pipe beams are being fabricated in Oregon, USA.

Status: The Hinge K pipe beams have been fabricated and installed. Hinge A seismic expansion joints are in fabrication and are currently scheduled for completion in December 2011. The SAS traveler rails and the Skyway bike path railings and crushable zone are in fabrication and are forecast for completion in September 2011. The anchor rods are also in fabrication and are forecast for completion in August 2011.



Cable Bands Ready for Painting



Sample of Cable Band Compaction Testing Performed at Pier 7 in Oakland

TOLL BRIDGE SEISMIC RETROFIT PROGRAM

Self-Anchored Suspension (SAS) Superstructure Field Activities



Shear-Leg Crane Barge in Process of Hoisting Final Components of the Self-Anchored Suspension Bridge

Shear-Leg Crane Barge

The massive shear-leg barge crane that is helping to build the SAS superstructure arrived in the San Francisco Bay on March 12, 2009 after a trans-Pacific voyage.

The crane and barge are separate units operating as a single entity named the “Left Coast Lifter.” The 400-by-100-foot barge is a U.S.-flagged vessel that was custom built in Portland, Oregon by U.S. Barge, LLC and outfitted with the crane by Shanghai Zhenhua Heavy Industry Co. Ltd. (ZPMC) at a facility near Shanghai, China. The crane’s boom weighs 992 tons and is 328 feet long. The crane can lift up to 1,873 tons, including the deck and tower boxes for the SAS.

Status: The shear-leg crane barge arrived at the job site March 2009. The crane has off-loaded and placed all temporary support structures and SAS roadway boxes and crossbeams.

Temporary Support Structures

To erect the roadway decks and tower of the bridge, temporary support structures were first put in place. Almost a bridge in itself, the temporary support structures stretch from the end of the completed Skyway back to Yerba Buena Island. For the tower, a strand jack system is being built into the tower’s temporary frame to elevate the upper sections of the tower into place. These temporary supports are being fabricated in the Bay Area, as well as in Oregon and in China at ZPMC.

Status: The temporary support structures were completed in mid-September 2010.

Cap Beams

Construction of the massive steel-reinforced concrete cap beams that link the columns at piers W2 and E2 are the responsibility of the SAS superstructure contractor and represents the only concrete portions of work on that contract. The east and west ends of the SAS roadway will rest on the cap beams and the main cable will wrap around pier W2, while anchoring into the east end of the SAS deck sections near E2.

Status: Completed in March 2009



Roadway Boxes' Temporary Support Structures with E2 Cap Beam and Completed Skyway in background



Pier W2 westbound Structure and Hinge K and West Deviation Saddle on right and YBITS #1 on left

TOLL BRIDGE SEISMIC RETROFIT PROGRAM

Self-Anchored Suspension (SAS) Superstructure Roadway and Tower Box Installation Activities

Upon arrival in Oakland, the steel roadway and tower sections are off-loaded directly from the transport ship onto barges to await installation atop the temporary support structures. Steel roadway boxes will be installed from west to east. Due to the shallow waters near Yerba Buena Island, the eastbound lanes on the south side of the new bridge will be installed first, then to be followed by the westbound lanes. In total, there are 28 roadway boxes (14 in each direction) that range from 560 to 1660 tons and from 80 to 230 feet long.

The tower comprises four legs, each made up of four tower lifts that make up the majority of the height of the tower, the tower grillage, and finally the tower head.

Status: Twenty-four of 28 roadway boxes have been erected to form a continuous roadway. Painting, welding and bolting continues on all roadway boxes. All four tower legs along with the tower grillage and the tower saddle have been installed as of mid-May 2011. Roadway boxes 12 eastbound and westbound were lifted into place at the end of June 2011. Roadway Boxes 13 and 14 eastbound and westbound and crossbeams 18 and 19 will be installed in September and October 2011.





Aerial View of the Self-Anchored Suspension Bridge Construction Operations



The Shear-Leg Barge Crane Off Loading Final Roadway Boxes in Oakland



TOLL BRIDGE SEISMIC RETROFIT PROGRAM

Self-Anchored Suspension (SAS) Superstructure Cable Installation Activities

With installation of all structural elements of the tower and roadway nearing completion, focus is now turning to the placement of the bridge's more than 2 1/2 - foot in diameter and nearly mile long main cable. The single cable is made up of 137 separate bundled strands which contain 127 individual pencil thin wires (see middle photo on this page). Each of the 137 bundled strands will be individually pulled by a tramway system from the northeastern end of the bridge, up and over the tower, and around the west end of the bridge before returning over the tower and to the southeastern end of the bridge.

Status: Workers installed the orange-colored 12-foot-wide catwalks from the roadway to the top of the tower in August 2011. The catwalks provide workers with safe access during the installation of the hauling system, tramway system and main cable strands.

Because the bridge is asymmetric with a longer span to the east than to the west, the tower will be pulled back 20 inches to the west so that the tower will return to a plumb position when the weight of the heavier east side of the bridge is transferred to the main cable. Workers plan to pull back the tower in September 2011.

To pull the strands up and around the bridge, a tramway system, similar to a ski lift, will be used to support, pull and place the main cable during installation. Installation of this system has begun and will be ongoing throughout rest of the year. Cable strand installation is scheduled to start in January 2012.



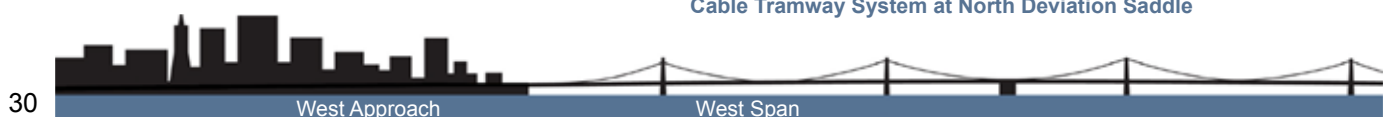
Aerial View of the Self-Anchored Suspension Bridge with the Newly Installed Catwalks



Catwalk Installation for Cable Works at the Self-Anchored Suspension Bridge Tower

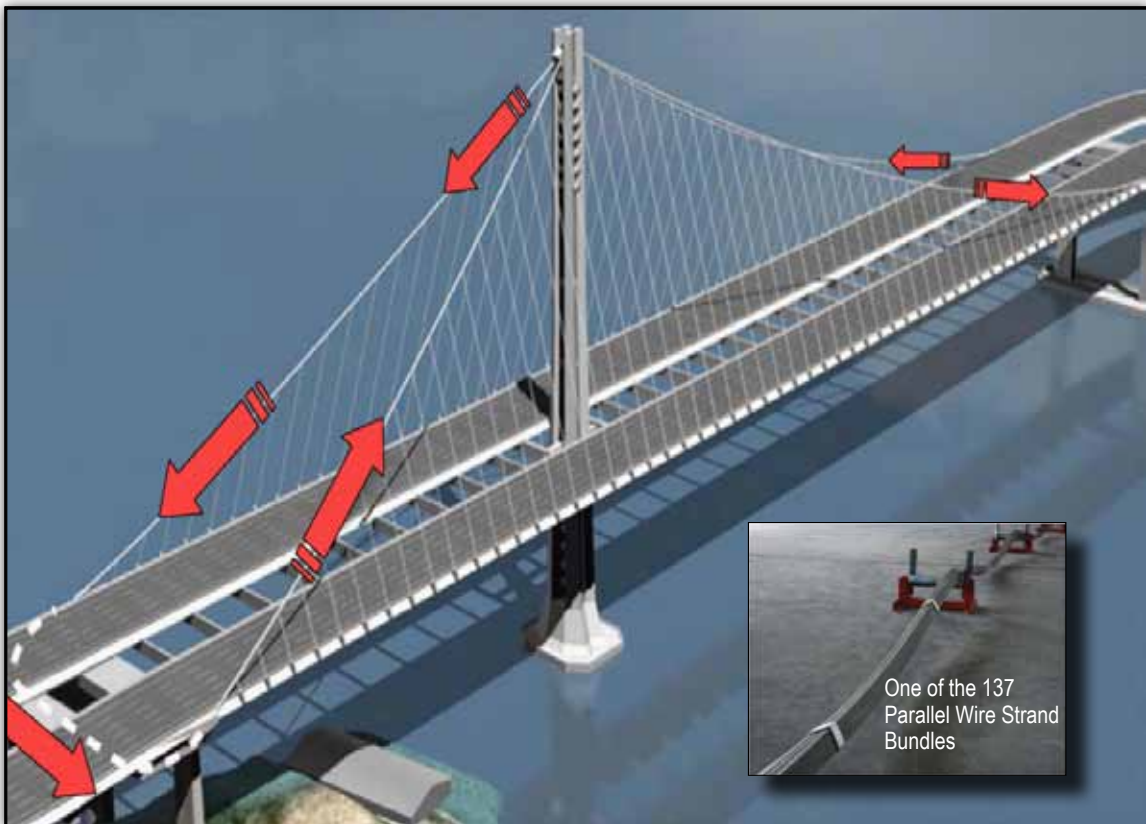


Cable Tramway System at North Deviation Saddle





Cable Tramway and Roller System at top of Tower Saddle



Rendering of the Cable Pull Direction

TOLL BRIDGE SEISMIC RETROFIT PROGRAM

San Francisco-Oakland Bay Bridge East Span Replacement Project Skyway

The Skyway, which comprises much of the new East Span, will drastically change the appearance of the Bay Bridge. Replacing the gray steel that currently cages drivers, a graceful, elevated roadway supported by piers will provide sweeping views of the bay.

E Skyway Contract

Contractor: Kiewit/FCI/Manson, Joint Venture

Approved Capital Outlay Budget: \$1.25 B

Status: Completed March 2008

Extending for more than a mile across Oakland mudflats, the Skyway is the longest section of the East Span. It sits between the new Self-Anchored Suspension (SAS) span and the Oakland Touchdown. In addition to incorporating the latest seismic-safety technology, the side-by-side roadway decks of the Skyway feature shoulders and lane widths built to modern standards.

The Skyway's decks are composed of 452 pre-cast concrete segments (standing three stories high), containing approximately 200 million pounds of structural steel, 120 million pounds of reinforcing steel, 200 thousand linear feet of piling and about 450 thousand cubic yards of concrete. These are the largest segments of their kind ever cast and were lifted into place by custom-made winches.

The Skyway marine foundation consists of 160 hollow steel pipe piles measuring eight feet in diameter and dispersed among 14 sets of piers. The 365-ton piles were driven more than 300 feet into the deep bay mud. The new East Span piles were battered or driven in at an angle, rather than vertically, to obtain maximum strength and resistance.

Designed specifically to move during a major earthquake, the Skyway features several state-of-the-art seismic safety innovations, including 60-foot-long hinge pipe beams. These beams will allow deck segments on the Skyway to move, enabling the deck to withstand greater motion and to absorb more earthquake energy.



Skyway on the left and Existing Bridge on the Right Looking East toward Oakland



TOLL BRIDGE SEISMIC RETROFIT PROGRAM

San Francisco-Oakland Bay Bridge East Span Replacement Project Oakland Touchdown

When completed, the Oakland Touchdown (OTD) structures will connect Interstate 80 in Oakland to the new side-by-side decks of the new East Span. For westbound drivers, the OTD will be their introduction to the graceful new East Span. For eastbound drivers from San Francisco, this section of the bridge will carry them from the Skyway to the East Bay, offering unobstructed views of the Oakland hills.

The Oakland Touchdown (OTD) approach structures to the Skyway will be constructed in three phases. The first phase, constructed on the OTD #1 contract, built the new westbound approach structure. Due to physical constraints with the existing bridge, OTD #1 was only able to construct a portion of the eastbound approach. To facilitate opening the bridge in both directions at the same time, the current phase of work, performed by the Oakland Detour contractor, is widening the upper deck of the Oakland end of the existing bridge to allow for a traffic shift to the north that removes the physical constraint to completing the eastbound structure. The third phase, to be constructed by a future OTD #2 contract, will complete the eastbound lanes and provide the traffic switch to the new structure in both directions. This will allow the bridge to open simultaneously in both directions.

F Oakland Touchdown #1 Contract

Contractor: MCM Construction, Inc.

Approved Capital Outlay Budget: \$212.0 M

Status: Completed June 2010

The OTD #1 contract constructed the entire 1,000-foot-long westbound approach from the toll plaza to the Skyway. When open to traffic, the westbound approach structure will provide direct access to the westbound Skyway. In the eastbound direction, the contract will construct a portion of the eastbound structure and all of the eastbound foundations that are not in conflict with the existing bridge.

Status: MCM Construction, Inc. completed OTD #1 westbound and eastbound phase 1 on June 8, 2010.

G Oakland Detour

Contractor: MCM Construction, Inc.

Approved Capital Outlay Budget: \$51.0 M

Status: In Construction

To ensure a simultaneous eastbound and westbound opening of the bridge by December 2013, the TBPOC has approved an acceleration plan that will construct a detour at the Oakland end of the bridge to allow for expedited construction of the OTD #2 contract. The detour realigns the existing bridge approach to the south to allow for construction of the remaining portion of OTD that was in conflict with the existing bridge.

Status: The westbound detour construction is in progress and is forecast to be completed in early 2012 pending weather or construction delays. The Burma Road extension access and the eastbound detour were completed in May 2011.

H Oakland Touchdown #2 Contract

Contractor: TBD

Approved Capital Outlay Budget: \$62.0 M

Status: In Design

The OTD #2 contract will complete the eastbound approach structure from the end of the Skyway to Oakland. This work is critical to the eastbound opening of the new bridge by December 2013.

Status: The TBPOC has approved an acceleration plan that will construct a detour at the Oakland end of the bridge to allow for expedited construction of the OTD #2 contract. OTD #2 is currently in design and the contract for construction will be advertised in October 2011 and awarded in April 2012.



TOLL BRIDGE SEISMIC RETROFIT PROGRAM

San Francisco-Oakland Bay Bridge East Span Replacement Project Other Contracts

A number of contracts needed to relocate utilities, clear areas of archeological artifacts, and prepare areas for future work have already been completed. The last major contract will be the eventual demolition and removal of the existing bridge, which by that time will have served the Bay Area for nearly 80 years. Following is a status of some the other East Span contracts.

East Span Interim Seismic Retrofit

Contractors: 1) California Engineering
2) Balfour Beatty

Approved Capital Outlay Budget: \$30.8 M

Status: Completed October 2000

After the 1989 Loma Prieta Earthquake, and before the final retrofit strategy was determined for the East Span, Caltrans completed an interim retrofit of the existing bridge to prevent a catastrophic collapse of the bridge should a similar earthquake occur before the East Span was completely replaced. The interim retrofit was performed under two separate contracts that lengthened pier seats, added some structural members, and strengthened areas of the bridge so they would be more resilient during an earthquake.

Stormwater Treatment Measures

Contractor: Diablo Construction, Inc.

Approved Capital Outlay Budget: \$18.3 M

Status: Completed December 2008

The Stormwater Treatment Measures contract implemented a number of best practices for the management and treatment of stormwater runoff. Focused on the areas around and approaching the toll plaza, the contract added new drainage and built new bio-retention swales and other related constructs.



Archeological Investigations



Existing East Span of the San Francisco-Oakland Bay Bridge



Stormwater Retention Basin



Yerba Buena Island Substation

Contractor: West Bay Builders

Approved Capital Outlay Budget: \$11.6 M

Status: Completed May 2005

This contract relocated an electrical substation just east of the Yerba Buena Island Tunnel in preparation for the new East Span.

Pile Installation Demonstration

Contractor: Manson and Dutra, Joint Venture

Approved Capital Outlay Budget: \$9.3 M

Status: Completed December 2000

While large-diameter battered piles are common in offshore drilling, the new East Span is one of the first bridges to use them in its foundations. To minimize project risks and build industry knowledge, a pile installation demonstration project was initiated to prove the efficacy of the proposed technology and methodology. The demonstration was highly successful and helped result in zero contract change orders or claims for pile driving on the project.

I Existing Bridge Demolition

Contractor: TBD

Approved Capital Outlay Budget: \$239.1 M

Status: In Design

Design work on the demolition of the existing bridge has started. The current plan is to complete the environmental clearance by December 2011 and obtain all permits by June 2012. To expedite opening of a new eastbound on-ramp and the pedestrian/bicycle pathway from Yerba Buena Island, the TBPOC has decided to split the bridge dismantling project into at least two contracts. The dismantling of the superstructure of the main cantilever section of the existing bridge will be incorporated into the YBITS #2 contract, while the remaining portions of the existing bridge will be removed by separate contract or contracts yet to be determined.



New YBI Electrical Substation

J Electrical Cable Relocation

Contractor: Manson Construction

Approved Capital Outlay Budget: \$9.6 M

Status: Completed January 2008

A submerged cable from Oakland that is close to where the new bridge will touch down supplies electrical power to Treasure Island. To avoid any possible damage to the cable during construction, two new replacement cables were run from Oakland to Treasure Island. The extra cable was funded by the Treasure Island Development Authority.

TOLL BRIDGE SEISMIC RETROFIT PROGRAM

Antioch Bridge Seismic Retrofit Project

Contractor: California Engineering Contractors, Inc.

Approved Capital Outlay Budget: \$70.0 M

Status: 77% Complete as of August 2011

Serving the Delta region of the Bay Area, the Antioch Bridge takes State Route 160 traffic over the San Joaquin River, linking eastern Contra Costa County with Sacramento County. The current 1.8-mile-long steel plate girder bridge was opened in 1978 with one lane in each direction. The major retrofit measure for the bridge includes installing seismic isolation bearings at each of the 41 piers, strengthening piers 12 through 31 with steel cross-bracing between column bents, and installing steel casings at all columns located at the Sherman Island approach slab bridge.

Status: Seismic isolation bearings will allow the superstructure of the bridge to move independently from the pier and column substructure during an earthquake. All seismic isolation bearings have been fabricated, tested, and made ready for delivery. 48 of 82 bearings (59% complete) have been installed at 24 of the 41 piers.

At piers 12 through 31, center steel cross bracing is being added between the pier columns to strengthen the pier. The work requires off-site fabrication of the steel cross bracing and on-site preparation of the existing columns to ensure proper bond with the new bracing. Sixteen of 20 piers have been retrofitted with the cross bracing. Field painting of the cross bracing is the last major activity of completing the pier retrofit.

Columns located on Sherman Island are being strengthened with steel column casing jackets. Column casing installation is scheduled to start in September 2011.

In addition to the retrofit work, the bridge is being instrumented to provide ground and structure motion information during future seismic event. Seismic monitoring equipment is being installed at 250, 160, 80, 50, 20 and 4 feet below the ground surface.



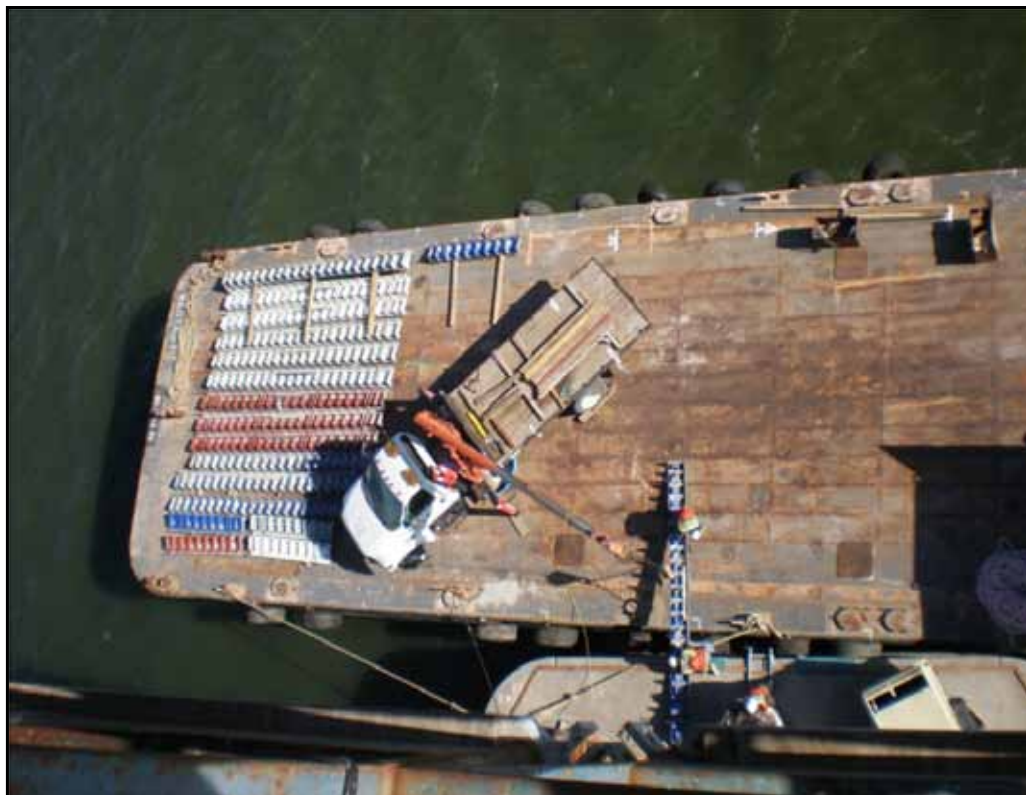
Jacking Pins to Be Installed through the Bent Caps Are Lifted into Place from a Marine Barge



Jacking Pins Installed through Cored Holes



Formed Concrete Pedestal Connection Between Existing Columns and New Cross Frames



Marine Barge Delivering Forms for Concrete Pedestals Connections between Existing Columns and New Cross Frames

Dumbarton Bridge Seismic Retrofit Project

Contractor: Shimmick Construction Company, Inc.

Approved Capital Outlay Budget: \$92.7 M

Status: 28% Complete as of August 2011

The current Dumbarton Bridge was opened to traffic in 1982 linking the cities of Newark in Alameda County and East Palo Alto in San Mateo County. The 1.6-mile long bridge has six lanes (three in each direction) and an eight-foot bicycle/pedestrian pathway. The bridge is a combination of three bridge types; reinforced concrete slab approaches supported on multiple pile extension columns, precast-prestressed concrete delta girders and steel box girders supported on reinforced concrete piers. The current retrofit strategy for the bridge includes superstructure and deck modifications and installation of isolation bearings.

Status: The main bridge structure between piers 16 - 31 will be raised approximately five inches so isolation bearings can be installed to separate the superstructure from the substructure during seismic events. In preparation, the bridge piers are being widened with reinforced concrete to accommodate the new bearings. This month work continues with reinforcing steel and concrete placement at these main bridge piers.

Along the reinforced concrete slab approaches, the bent caps are being extended and tied to new 48" diameter steel piles that have been installed to strengthen the bridge. Bent cap extensions along the west trestle approach are complete and all east approach trestle bent columns have been constructed. The reinforced concrete bent cap extensions at the east approach trestle were cast in July 2011.

The concrete coring operation to widen the bent caps is complete at 10 of the 14 locations and the installation of the jacking frames inside the main bridge's steel box has been completed at 2 piers. A mockup of how the new isolation bearing will connect to steel box is currently being assembled at the site. Demolition work of the shear pin cover plate is ongoing at exterior cells at Pier 19 and at the interior cells at pier 20.



Steel Sheet Piles Driven for Cut-Off Walls for Installation of Drainage System and Flood Wall



Pier Cap Drill and bond Dowels at Pier 18



Pump Station Deck Rebar Being Placed



Welding Jacking Frame at Pier 18 Exterior Cell Eastbound Structure

TOLL BRIDGE SEISMIC RETROFIT PROGRAM

Other Completed Projects

In the 1990s, the State Legislature identified seven of the nine state-owned toll bridges for seismic retrofit. In addition to the San Francisco-Oakland Bay Bridge, these included the Benicia-Martinez, Carquinez, Richmond-San Rafael and San Mateo-Hayward bridges in the Bay Area, and the Vincent Thomas and Coronado bridges in Southern California. Other than the East Span of the Bay Bridge, the retrofits of all of the bridges have been completed as planned.

San Mateo-Hayward Bridge Seismic Retrofit Project

Project Status: Completed 2000

The San Mateo-Hayward Bridge seismic retrofit project focused on strengthening the high-rise portion of the span. The foundations of the bridge were significantly upgraded with additional piles.



High-Rise Section of San Mateo-Hayward Bridge

1958 Carquinez Bridge Seismic Retrofit Project

Project Status: Completed 2002

The eastbound 1958 Carquinez Bridge was retrofitted in 2002 with additional reinforcement of the cantilever thru-truss structure.

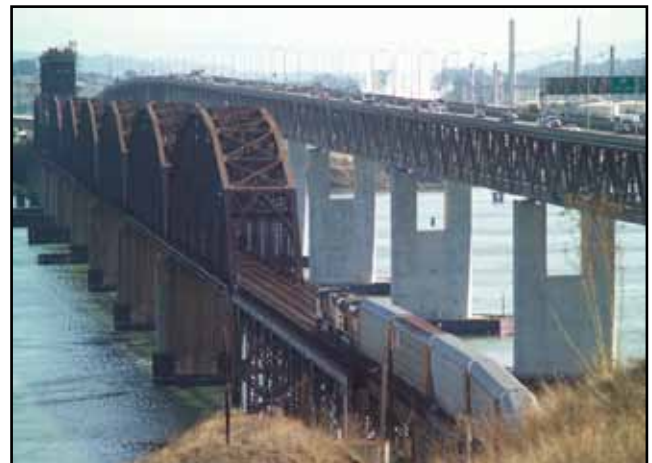


1958 Carquinez Bridge (foreground) with the 1927 Span (middle) under Demolition and the New Alfred Zampa Memorial Bridge (background)

1962 Benicia-Martinez Bridge Seismic Retrofit Project

Project Status: Completed 2003

The southbound 1962 Benicia-Martinez Bridge was retrofitted to "Lifeline" status with the strengthening of the foundations and columns and the addition of seismic bearings that allow the bridge to move during a major seismic event. The Lifeline status means the bridge is designed to sustain minor to moderate damage after a seismic event and to reopen quickly to emergency response traffic.



1962 Benicia-Martinez Bridge (right)

Richmond-San Rafael Bridge Seismic Retrofit Project

Project Status: Completed 2005

The Richmond-San Rafael Bridge was retrofitted to a “No Collapse” classification to avoid catastrophic failure during a major seismic event. The foundations, columns, and truss of the bridge were strengthened, and the entire low-rise approach viaduct from Marin County was replaced.



Richmond-San Rafael Bridge

Los Angeles-Vincent Thomas Bridge Seismic Retrofit Project

Project Status: Completed 2000

The Vincent Thomas Bridge is a 1,500-foot long suspension bridge crossing the Los Angeles Harbor in Los Angeles that links San Pedro with Terminal Island. The bridge was one of two state-owned toll bridges in Southern California (the other being the San Diego-Coronado Bridge). Opened in 1963, the bridge was seismically retrofitted as part of the TBSRP in 2000.



Los Angeles-Vincent Thomas Bridge

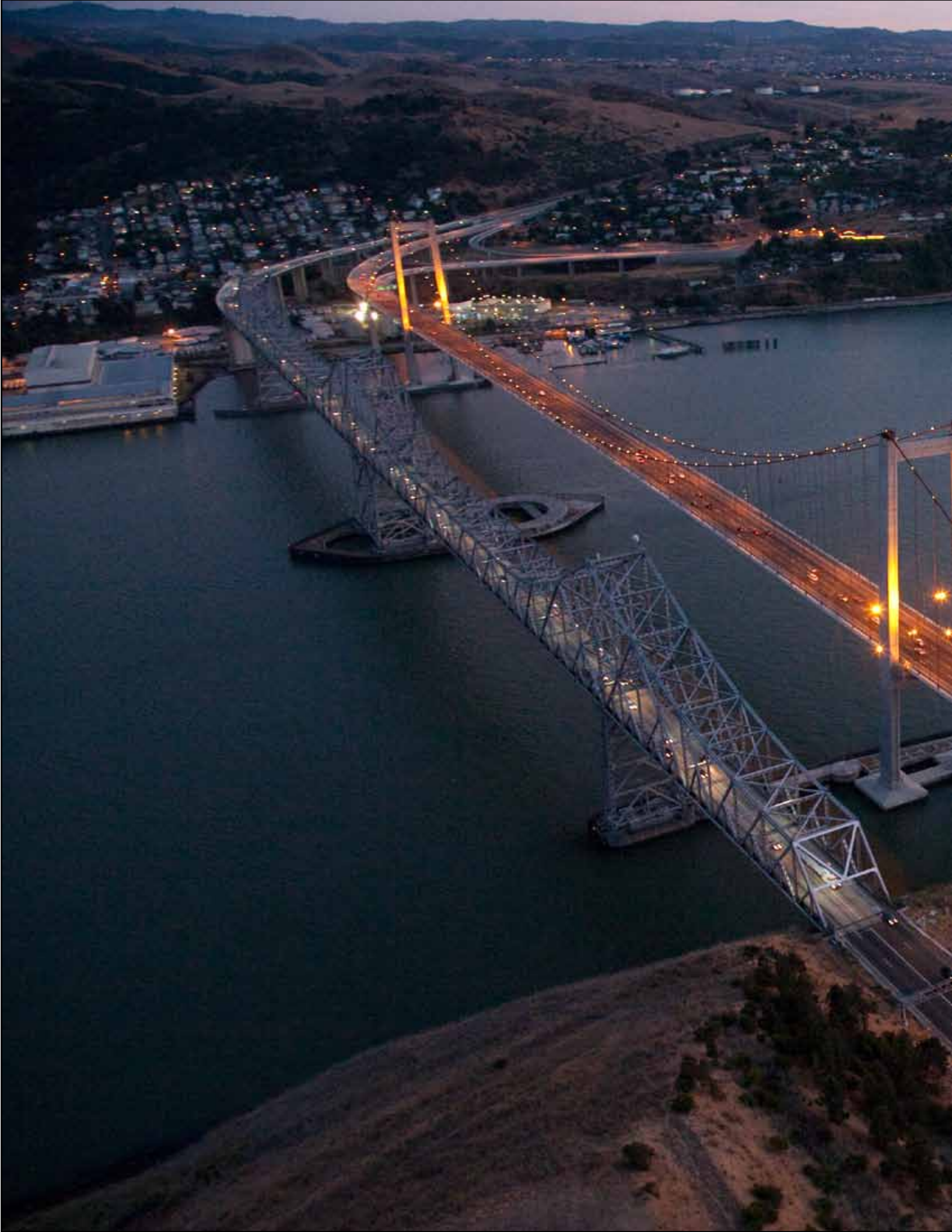
San Diego-Coronado Bridge Seismic Retrofit Project

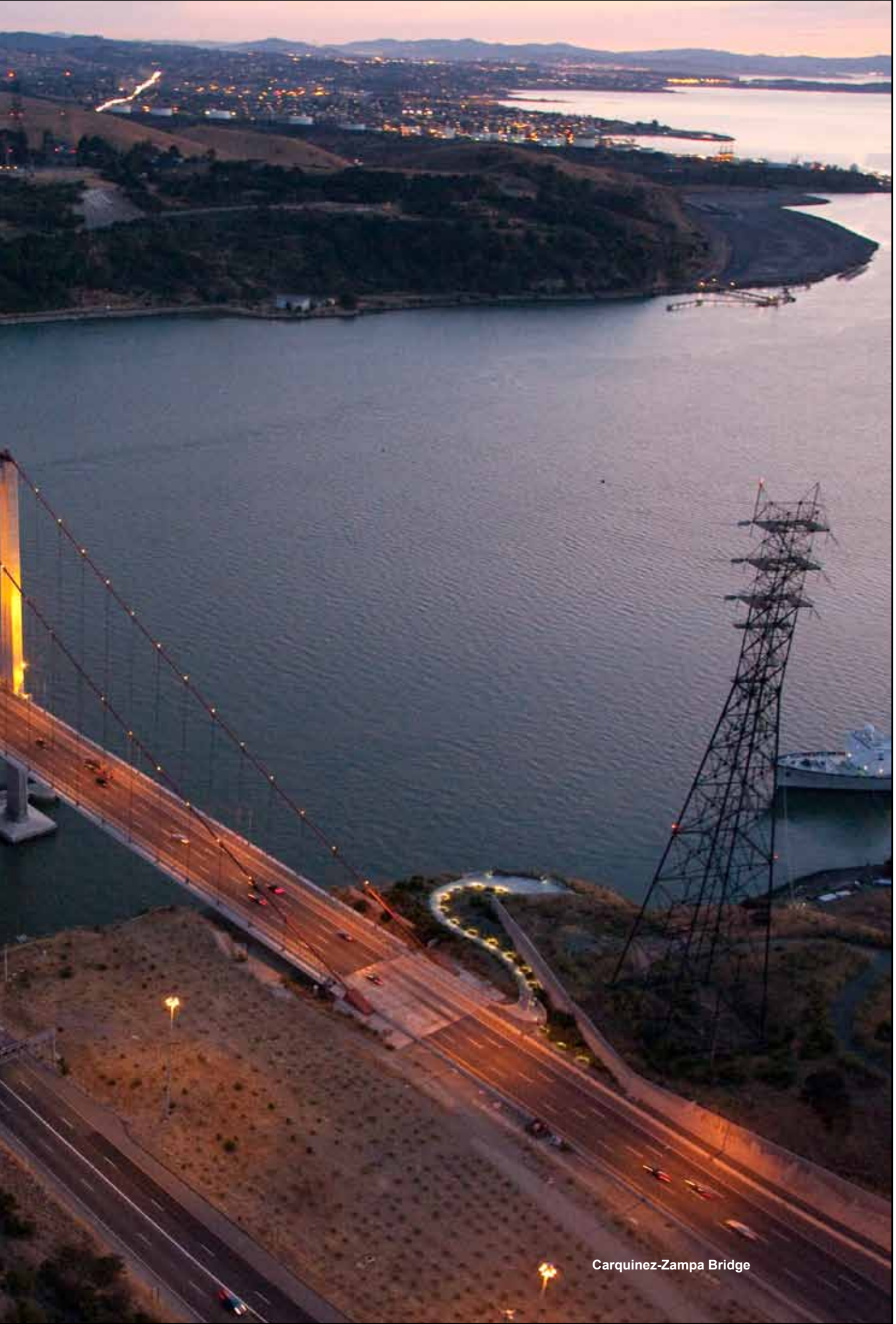
Project Status: Completed 2002

The San Diego-Coronado Bridge crosses over San Diego Bay and links the cities of San Diego and Coronado. Opened in 1969, the 2.1-mile long bridge was seismically retrofitted as part of the TBSRP in 2002.



San Diego-Coronado Bridge





Carquinez-Zampa Bridge

REGIONAL MEASURE 1 TOLL BRIDGE PROGRAM

REGIONAL MEASURE 1 PROGRAM

Interstate 880/State Route 92 Interchange Reconstruction Project

Project Status: In Construction

The Interstate 880/State Route 92 Interchange Reconstruction Project is the final project under the Regional Measure 1 Toll Bridge Program. Project completion fulfills a promise made to Bay Area voters in 1988 to deliver a slate of projects that help expand bridge capacity and improve safety on the bridges.

Interstate 880/State Route 92 Interchange Reconstruction Contract

Contractor: Flatiron/Granite

Approved Capital Outlay Budget: \$163.2 M

Status: 93% Complete as of August 2011

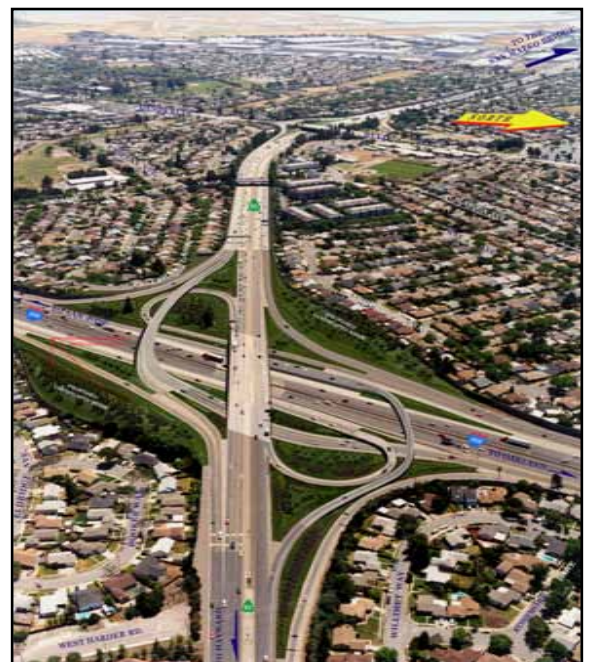
This corridor is consistently one of the Bay Area's most congested during the evening commute. This is due in part to the lane merging and weaving that is required by the existing cloverleaf interchange. The new interchange will feature direct freeway-to-freeway connector ramps that will increase traffic capacity and improve overall safety and traffic operations in the area. With the new direct-connector ramps, drivers coming off of the San Mateo-Hayward Bridge can access Interstate 880 without having to compete with traffic headed onto east Route 92 from south Interstate 880 (see progress photos on pages 78 and 79).



SR 92/880 WSCONN On Ramp



Aerial View of Construction Progress



Future Interstate 880/State Route 92 Interchange
(as simulated) Looking West toward San Mateo

Stage 1 – Construct East Route 92 to North Interstate 880 Connector

The new east Route 92 to north Interstate 880 connector (ENCONN) is the most critical fly-over structure for relieving congestion in the corridor. The ENCONN will be first used as a detour to allow for future stages of work, while keeping traffic flowing.

Status: ENCONN was completed and opened to detour traffic on May 16, 2009.

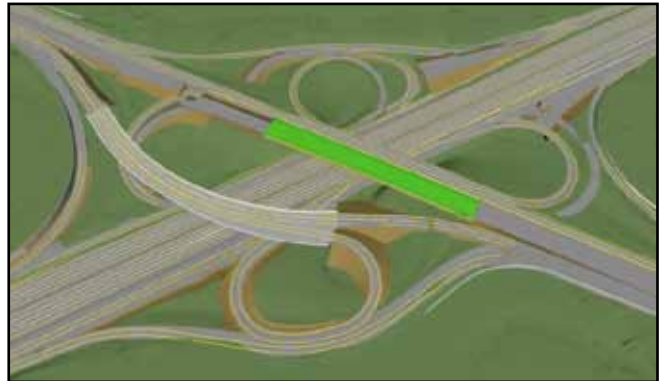


Stage 1 - Construct East Route 92 to North Interstate 880 Direct Connector

Stage 2 – Replace South Side of Route 92 Separation Structure

By detouring eastbound Route 92 traffic onto ENCONN, the existing separation structure that carries SR92 over I-880 can be replaced. The existing structure will be cut lengthwise, and then demolished and replaced separately. In this stage, the south side of the structure will be replaced, while west Route 92 and south Interstate 880 to east Route 92 traffic will stay on the remaining structure.

Status: Work on the south side of the separation structure is complete.



Stage 2 - Demolish and Replace South Side of Route 92 Separation Structure

Stage 3 – Replace North Side of Route 92 Separation Structure

Upon completion of Stage 2, the existing north side of the separation structure will be demolished and replaced. Its traffic will then be shifted onto the newly reconstructed south side.

Status: The north side of the structure opened to traffic in February 2011.



Stage 3 - Demolish and Replace North Side of Route 92 Separation Structure

Stage 4 – Final Realignment and Other Work

In addition to ENCONN and the separation structure, direct north 880 to west 92 connector (NWCONN) and west 92 to south 880 connector (WSCONN) remain to be completed. The new Eldridge Avenue pedestrian overcrossing is now complete.

Status: The NWCONN structure opened to traffic in October 2010. The WSCONN structure is scheduled to be fully opened in August 2011. The contract is forecast to be completed in September 2011.



Stage 4 - Final Realignment and Other Work

REGIONAL MEASURE 1 PROGRAM

Other Completed Projects

San Mateo-Hayward Bridge-Widening Project

Project Status: Completed 2003

This project expanded the low-rise concrete trestle section of the San Mateo-Hayward Bridge to allow for three lanes in each direction to match the existing configuration of the high-rise steel section of the bridge.



Widening of the San Mateo-Hayward Bridge Trestle on Left

Richmond-San Rafael Bridge Rehabilitation Projects

Project Status: Completed 2006

Two major rehabilitation projects for the Richmond-San Rafael Bridge were funded and completed: (1) replacement of the western concrete approach trestle and ship-collision protection fender system; and (2) rehabilitation of deck joints and resurfacing of the bridge deck.

In 2005, along with the seismic retrofit of the bridge, the trestle and fender replacement work was completed as part of the same project. Under a separate contract in 2006, the bridge was resurfaced with a polyester concrete overlay along with the repair of numerous deck joints.



New Richmond-San Rafael Bridge West Approach Trestle under Construction

Richmond Parkway Construction Project

Project Status: Completed 2001

The final connections to the Richmond Parkway from Interstate 580 near the Richmond-San Rafael Bridge were completed in May 2001.

New Alfred Zampa Memorial (Carquinez) Bridge Project

Project Status: **Completed 2003**



New Alfred Zampa Memorial (Carquinez) Bridge Soon after Opening to Traffic, with Crockett Interchange Still under Construction

The new western span of the Carquinez Bridge, which replaced the original 1927 span, is a twin-towered suspension bridge with three mixed-flow lanes, a new carpool lane, shoulders and a bicycle/pedestrian pathway.

Benicia-Martinez Bridge Project

Project Status: **Completed 2009**



Benicia-Martinez Bridge Bicycle/Pedestrian Pathway Opened to the Public in August 2009

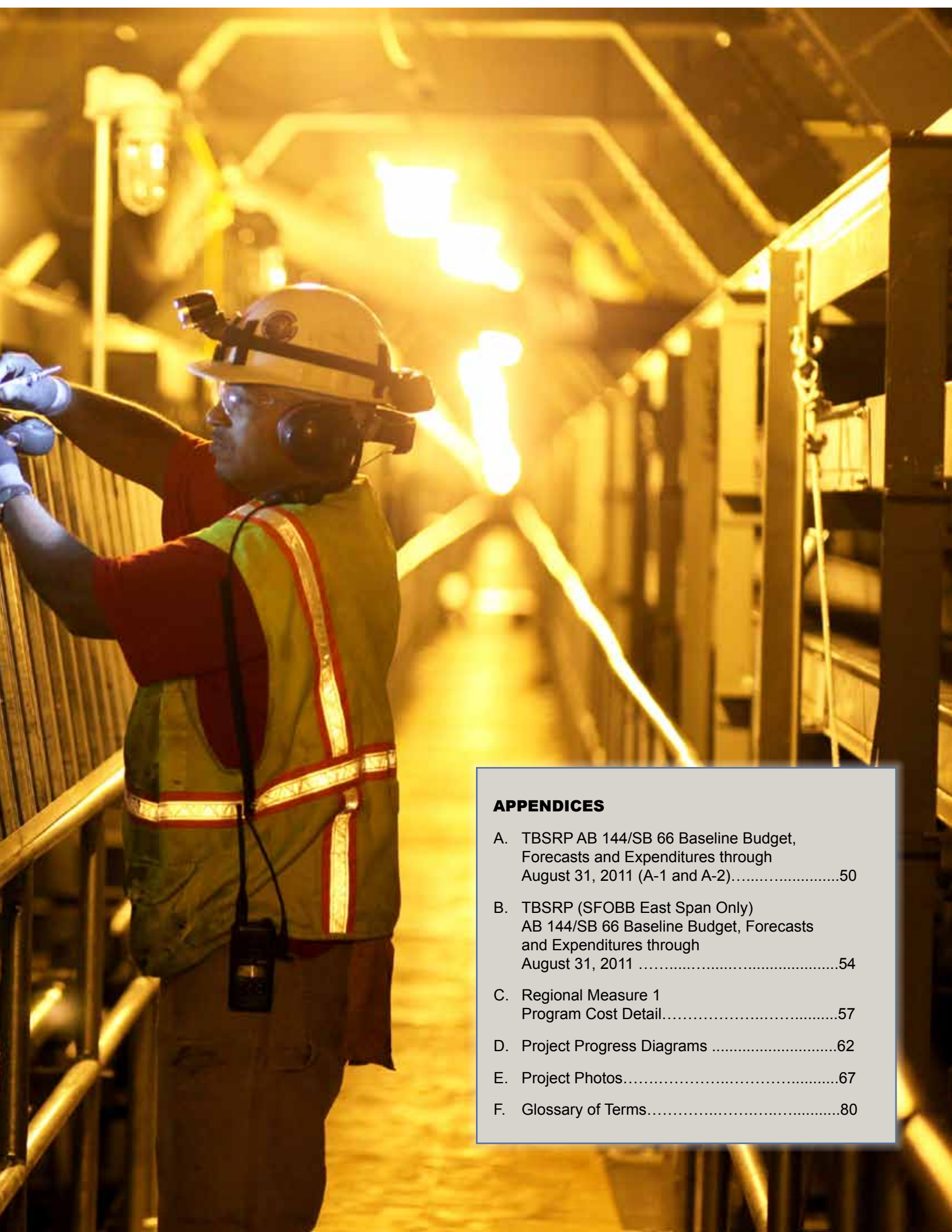
A two-year project to rehabilitate and reconfigure the original Benicia-Martinez Bridge began shortly after the opening of the new Congressman George Miller Bridge. The existing 1.2-mile roadway surface on the steel deck truss bridge was modified to carry four lanes of southbound traffic (one more than before)—with shoulders on both sides—plus a bicycle/pedestrian path on the west side of the span that connects to Park Road in Benicia and to Marina Vista Boulevard in Martinez. Reconstruction of the east side of the bridge and approaches was completed in August 2008. Reconstruction of the west side of the bridge and its approaches and construction of the bicycle/pedestrian pathway were completed in August 2009.

Bayfront Expressway (State Route 84) Widening Project

Project Status: **Completed 2004**

This project expanded and improved the roadway from the Dumbarton Bridge touchdown to the US 101/ Marsh Road interchange by adding additional lanes and turn pockets and improving bicycle/pedestrian access in the area.





APPENDICES

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Appendix A-1: TBSRP AB 144/SB 66 Baseline Budget, Forecasts and Expenditures through August 31, 2011 (\$ Millions)

Contract a	AB 144 / SB 66 Budget (07/2005) c	Approved Changes d	Current Approved Budget (08/2011) e = c + d	Cost to Date (08/2011) f	Cost Forecast (08/2011) g	At- Completion Variance h = g - e
SFOBB East Span Replacement Project						
Capital Outlay Support	959.3	218.0	1,177.3	988.7	1,275.8	98.5
Capital Outlay Construction	4,492.2	589.4	5,081.6	3,965.9	5,164.4	82.8
Other Budgeted Capital	35.1	(3.3)	31.8	0.7	7.7	(24.1)
Total	5,486.6	804.1	6,290.7	4,955.3	6,447.9	157.2
SFOBB West Approach Replacement						
Capital Outlay Support	120.0	(2.0)	118.0	118.4	118.5	0.5
Capital Outlay Construction	309.0	41.7	350.7	329.9	338.1	(12.6)
Total	429.0	39.7	468.7	448.3	456.6	(12.1)
SFOBB West Span Retrofit						
Capital Outlay Support	75.0	(0.2)	74.8	74.9	74.8	-
Capital Outlay Construction	232.9	(5.5)	227.4	227.4	227.4	-
Total	307.9	(5.7)	302.2	302.3	302.2	-
Richmond-San Rafael Bridge Retrofit						
Capital Outlay Support	134.0	(7.0)	127.0	126.8	127.0	-
Capital Outlay Construction	780.0	(90.5)	689.5	667.5	689.5	-
Total	914.0	(97.5)	816.5	794.3	816.5	-
Benicia-Martinez Bridge Retrofit						
Capital Outlay Support	38.1	-	38.1	38.1	38.1	-
Capital Outlay Construction	139.7	-	139.7	139.7	139.7	-
Total	177.8	-	177.8	177.8	177.8	-
Carquinez Bridge Retrofit						
Capital Outlay Support	28.7	0.1	28.8	28.8	28.8	-
Capital Outlay Construction	85.5	(0.1)	85.4	85.6	85.4	-
Total	114.2	-	114.2	114.4	114.2	-
San Mateo-Hayward Retrofit						
Capital Outlay Support	28.1	-	28.1	28.1	28.1	-
Capital Outlay Construction	135.4	(0.1)	135.3	135.3	135.3	-
Total	163.5	(0.1)	163.4	163.4	163.4	-
Vincent Thomas Bridge Retrofit (Los Angeles)						
Capital Outlay Support	16.4	-	16.4	16.4	16.4	-
Capital Outlay Construction	42.1	(0.1)	42.0	42.0	42.0	-
Total	58.5	(0.1)	58.4	58.4	58.4	-
San Diego-Coronado Bridge Retrofit						
Capital Outlay Support	33.5	(0.3)	33.2	33.2	33.2	-
Capital Outlay Construction	70.0	(0.6)	69.4	69.4	69.4	-
Total	103.5	(0.9)	102.6	102.6	102.6	-

Appendix A-1: TBSRP AB 144/SB 66 Baseline Budget, Forecasts and Expenditures through August 31, 2011 (\$ Millions) Cont.

Contract	AB 144 / SB 66 Budget (07/2005)	Approved Changes	Current Approved Budget (08/2011)	Cost to Date (08/2011)	Cost Forecast (08/2011)	At-Completion Variance
a	c	d	e = c + d	f	g	h = g - e
Antioch Bridge						
Capital Outlay Support	-	31.0	31.0	14.2	34.7	3.7
Capital Outlay Support by BATA				6.2		
Capital Outlay Construction	-	70.0	70.0	33.2	56.9	(13.1)
Total	-	101.0	101.0	53.6	91.6	(9.4)
Dumbarton Bridge						
Capital Outlay Support	-	56.0	56.0	22.3	57.2	1.2
Capital Outlay Support by BATA				6.0		
Capital Outlay Construction	-	92.7	92.7	16.1	88.8	(3.9)
Total	-	148.7	148.7	44.4	146.0	(2.7)
Subtotal Capital Outlay Support	1,433.1	295.6	1,728.7	1,502.1	1,832.6	103.9
Subtotal Capital Outlay	6,286.8	696.9	6,983.7	5,712.0	7,036.9	53.2
Subtotal Other Budgeted Capital	35.1	(3.3)	31.8	0.7	7.7	(24.1)
Miscellaneous Program Costs	30.0	-	30.0	25.5	30.0	-
Subtotal Toll Bridge Seismic Retrofit Program	7,785.0	989.2	8,774.2	7,240.3	8,907.2	133.0
Net Programmatic Risks*	-	-	-	-	66.9	66.9
Program Contingency	900.0	(592.2)	307.8	-	107.9	(199.9)
Total Toll Bridge Seismic Retrofit Program ¹	8,685.0	397.0	9,082.0	7,240.3	9,082.0	-

¹ Figures may not sum up to totals due to rounding effects.

Appendix A-2: TBSRP AB 144/SB 66 Baseline Budget, Forecasts and Expenditures through August 31, 2011 (\$ Millions)

Bridge	AB 144 Baseline Budget	TBPOC Current Approved Budget	Expenditures to date and Encumbrances as of August 2011 see Note (1)	Estimated costs not yet spent or Encumbered as of August 2011	Total Forecast as of August 2011
a	b	c	d	e	f = d + e
Other Completed Projects					
Capital Outlay Support	144.9	144.6	144.6	-	144.6
Capital Outlay	472.6	471.9	472.0	(0.2)	471.8
Total	617.5	616.5	616.6	(0.2)	616.4
Richmond-San Rafael					
Capital Outlay Support	134.0	127.0	126.8	0.2	127.0
Capital Outlay	698.0	689.5	667.4	22.1	689.5
Project Reserves	82.0	-	-	-	-
Total	914.0	816.5	794.2	22.3	816.5
West Span Retrofit					
Capital Outlay Support	75.0	74.8	74.9	(0.1)	74.8
Capital Outlay	232.9	227.4	227.3	0.1	227.4
Total	307.9	302.2	302.2	(0.0)	302.2
West Approach					
Capital Outlay Support	120.0	118.0	118.3	0.2	118.5
Capital Outlay	309.0	350.7	329.7	8.4	338.1
Total	429.0	468.7	448.0	8.6	456.6
SFOBB East Span - Skyway					
Capital Outlay Support	197.0	181.2	181.2	-	181.2
Capital Outlay	1,293.0	1,254.1	1,237.1	8.1	1,245.2
Total	1,490.0	1,435.3	1,418.3	8.1	1,426.4
SFOBB East Span - SAS - Superstructure					
Capital Outlay Support	214.6	375.5	329.6	146.6	476.2
Capital Outlay	1,753.7	2,046.8	1,564.9	514.0	2,078.9
Total	1,968.3	2,422.3	1,894.5	660.6	2,555.1
SFOBB East Span - SAS - Foundations					
Capital Outlay Support	62.5	37.6	37.6	-	37.6
Capital Outlay	339.9	307.3	301.3	3.7	305.0
Total	402.4	344.9	338.9	3.7	342.6
Small YBI Projects					
Capital Outlay Support	10.6	10.6	10.2	0.4	10.6
Capital Outlay	15.6	15.6	15.2	0.5	15.7
Total	26.2	26.2	25.4	0.9	26.3
YBI Detour					
Capital Outlay Support	29.5	90.7	87.1	1.1	88.2
Capital Outlay	131.9	492.8	465.9	16.9	482.8
Total	161.4	583.5	553.0	18.0	571.0
YBI- Transition Structures					
Capital Outlay Support	78.7	106.4	50.5	66.6	117.1
Capital Outlay	299.4	247.8	43.0	262.1	305.1
Total	378.1	354.2	93.5	328.7	422.2

Appendix A-2: TBSRP AB 144/SB 66 Baseline Budget, Forecasts and Expenditures through August 31, 2011 (\$ Millions) Cont.

Contract	AB 144 Baseline Budget	TBPOC Current Approved Budget	Expenditures to date and Encumbrances as of August 2011 see Note (1)	Estimated Costs not yet spent or Encumbered as of August 2011	Total Forecast as of August 2011
a	b	c	d	e	f = d + e
Oakland Touchdown					
Capital Outlay Support	74.4	108.9	86.6	30.6	117.2
Capital Outlay	283.8	339.0	209.4	124.5	333.9
Total	358.2	447.9	296.0	155.1	451.1
East Span Other Small Projects					
Capital Outlay Support	212.3	206.5	197.9	8.7	206.6
Capital Outlay	170.8	170.8	116.7	37.9	154.6
Total	383.1	377.3	314.6	46.6	361.2
Existing Bridge Demolition					
Capital Outlay Support	79.7	59.9	1.2	39.9	41.1
Capital Outlay	239.2	239.1	-	250.8	250.8
Total	318.9	299.0	1.2	290.7	291.9
Antioch Bridge					
Capital Outlay Support	-	31.0	14.2	14.3	28.5
Capital Outlay Support by BATA			6.2	-	6.2
Capital Outlay	-	70.0	25.7	31.2	56.9
Total	-	101.0	46.1	45.5	91.6
Dumbarton Bridge					
Capital Outlay Support	-	56.0	22.9	28.3	51.2
Capital Outlay Support by BATA			6.0	-	6.0
Capital Outlay	-	92.7	13.2	75.6	88.8
Total	-	148.7	42.1	103.9	146.0
Miscellaneous Program Costs	30.0	30.0	25.5	4.5	30.0
Total Capital Outlay Support	1,463.2	1,758.7	1,521.3	341.3	1,862.6
Total Capital Outlay	6,321.8	7,015.5	5,688.8	1,355.8	7,044.6
Program Total ¹	7,785.0	8,774.2	7,210.1	1,697.1	8,907.2

(1). Funds allocated to project or contract for Capital Outlay and Support needs includes Capital Outlay Support total allocation for FY 06/07.

(2). BSA provided a distribution of program contingency in December 2004 based in Bechtel Infrastructure Corporation input.
This Column is subject to revision upon completion of Department's risk assessment update.

(3) Total Capital Outlay Support includes program indirect costs.

¹ Figures may not sum up to totals due to rounding effects.

Appendix B: TBSRP (SFOBB East Span Only) AB 144/SB 66 Baseline Budget, Forecasts and Expenditures through August 31, 2011 (\$ Millions)

Contract a	AB 144 / SB 66 Budget (07/2005) c	Approved Changes d	Current Approved Budget (08/2011) e = c + d	Cost to Date (08/2011) f	Cost Forecast (08/2011) g	At- Completion Variance h = g - e
San Francisco-Oakland Bay Bridge East Span Replacement Project						
East Span - SAS Superstructure						
Capital Outlay Support	214.6	160.9	375.5	335.4	476.2	100.7
Capital Outlay Construction	1,753.7	293.1	2,046.8	1,564.9	2,078.9	32.1
Total	1,968.3	454.0	2,422.3	1,900.3	2,555.1	132.8
SAS W2 Foundations						
Capital Outlay Support	10.0	(0.8)	9.2	9.2	9.2	-
Capital Outlay Construction	26.4	-	26.4	26.5	26.4	-
Total	36.4	(0.8)	35.6	35.7	35.6	-
YBI South/South Detour						
Capital Outlay Support	29.4	61.3	90.7	87.2	88.2	(2.5)
Capital Outlay Construction	131.9	360.9	492.8	465.9	482.8	(10.0)
Total	161.3	422.2	583.5	553.1	571.0	(12.5)
East Span - Skyway						
Capital Outlay Support	197.0	(15.8)	181.2	181.2	181.2	-
Capital Outlay Construction	1,293.0	(38.9)	1,254.1	1,237.1	1,245.2	(8.9)
Total	1,490.0	(54.7)	1,435.3	1,418.3	1,426.4	(8.9)
East Span - SAS E2/T1 Foundations						
Capital Outlay Support	52.5	(24.1)	28.4	28.4	28.4	-
Capital Outlay Construction	313.5	(32.6)	280.9	274.8	278.6	(2.3)
Total	366.0	(56.7)	309.3	303.2	307.0	(2.3)
YBI Transition Structures (see notes below)						
Capital Outlay Support	78.7	27.7	106.4	51.8	117.1	10.7
Capital Outlay Construction	299.3	(51.5)	247.8	55.4	305.1	57.3
Total	378.0	(23.8)	354.2	107.2	422.2	68.0
* YBI- Transition Structures						
Capital Outlay Support			16.4	16.4	16.5	0.1
Capital Outlay Construction			-	-	-	-
Total			16.4	16.4	16.5	0.1
* YBI- Transition Structures Contract No. 1						
Capital Outlay Support			57.0	26.8	67.1	10.1
Capital Outlay Construction			185.5	55.4	222.4	36.9
Total			242.5	82.2	289.5	47.0
* YBI- Transition Structures Contract No. 2						
Capital Outlay Support			32.0	8.6	32.5	0.5
Capital Outlay Construction			59.0	-	79.4	20.4
Total			91.0	8.6	111.9	20.9
* YBI- Transition Structures Contract No. 3 Landscape						
Capital Outlay Support			1.0	-	1.0	-
Capital Outlay Construction			3.3	-	3.3	-
Total			4.3	-	4.3	-

Appendix B: TBSRP (SFOBB East Span Only) AB 144/SB 66 Baseline Budget, Forecasts and Expenditures through August 31, 2011 (\$ Millions) Cont.

Contract a	AB 144 / SB 66 Budget (07/2005) c	Approved Changes d	Current Approved Budget (08/2011) e = c + d	Cost to Date (08/2011) f	Cost Forecast (08/2011) g	At- Completion Variance h = g - e
Oakland Touchdown (see notes below)						
Capital Outlay Support	74.4	34.5	108.9	86.6	117.2	8.3
Capital Outlay Construction	283.8	55.2	339.0	209.4	333.9	(5.1)
Total	358.2	89.7	447.9	296.0	451.1	3.2
*OTD Prior-to-Split Costs						
Capital Outlay Support			21.7	20.0	21.7	-
Capital Outlay Construction			-	-	-	-
Total			21.7	20.0	21.7	-
*OTD Submarine Cable						
Capital Outlay Support			0.9	0.9	0.9	-
Capital Outlay Construction			9.6	6.5	9.6	-
Total			10.5	7.4	10.5	-
*OTD No.1 (Westbound)						
Capital Outlay Support			47.3	50.9	51.7	4.4
Capital Outlay Construction			212.0	202.9	203.3	(8.7)
Total			259.3	253.8	255.0	(4.3)
*OTD No.2 (Eastbound)						
Capital Outlay Support			22.5	11.6	26.4	3.9
Capital Outlay Construction			62.0	-	58.6	(3.4)
Total			84.5	11.6	85.0	0.5
* Oakland Detour						
Capital Outlay Support			15.0	2.4	15.0	-
Capital Outlay Construction			51.0	-	58.0	7.0
Total			66.0	2.4	73.0	7.0
*OTD Electrical Systems						
Capital Outlay Support			1.5	0.8	1.5	-
Capital Outlay Construction			4.4	-	4.4	-
Total			5.9	0.8	5.9	-
Existing Bridge Demolition						
Capital Outlay Support	79.7	(19.8)	59.9	0.8	41.1	(18.8)
Capital Outlay Construction	239.2	(0.1)	239.1	-	250.8	11.7
Total	318.9	(19.9)	299.0	0.8	291.9	(7.1)
YBI/SAS Archeology						
Capital Outlay Support	1.1	-	1.1	1.1	1.1	-
Capital Outlay Construction	1.1	-	1.1	1.1	1.1	-
Total	2.2	-	2.2	2.2	2.2	-
YBI - USCG Road Relations						
Capital Outlay Support	3.0	-	3.0	2.7	3.0	-
Capital Outlay Construction	3.0	-	3.0	2.8	3.0	-
Total	6.0	-	6.0	5.5	6.0	-
YBI - Substation and Viaduct						
Capital Outlay Support	6.5	-	6.5	6.4	6.5	-
Capital Outlay Construction	11.6	-	11.6	11.3	11.6	-
Total	18.1	-	18.1	17.7	18.1	-

Appendix B: TBSRP (SFOBB East Span Only) AB 144/SB 66 Baseline Budget, Forecasts and Expenditures through August 31, 2011 (\$ Millions) Cont.

Contract	AB 144 / SB 66 Budget (07/2005)	Approved Changes	Current Approved Budget (08/2011)	Cost to Date (08/2011)	Cost Forecast (08/2011)	At-Completion Variance
a	c	d	e = c + d	f	g	h = g - e
Oakland Geofill						
Capital Outlay Support	2.5	-	2.5	2.5	2.5	-
Capital Outlay Construction	8.2	-	8.2	8.2	8.2	-
Total	10.7	-	10.7	10.7	10.7	-
Pile Installation Demonstration Project						
Capital Outlay Support	1.8	-	1.8	1.8	1.8	-
Capital Outlay Construction	9.3	-	9.3	9.2	9.3	-
Total	11.1	-	11.1	11.0	11.1	-
Stormwater Treatment Measures						
Capital Outlay Support	6.0	2.2	8.2	8.2	8.2	-
Capital Outlay Construction	15.0	3.3	18.3	16.8	18.3	-
Total	21.0	5.5	26.5	25.0	26.5	-
Right-of-Way and Environmental Mitigation						
Capital Outlay Support	-	-	-	-	-	-
Capital Outlay & Right-of-Way	72.4	-	72.4	51.7	80.4	8.0
Total	72.4	-	72.4	51.7	80.4	8.0
Sunk Cost - Existing East Span Retrofit						
Capital Outlay Support	39.5	-	39.5	39.5	39.5	-
Capital Outlay Construction	30.8	-	30.8	30.8	30.8	-
Total	70.3	-	70.3	70.3	70.3	-
Other Capital Outlay Support						
Environmental Phase	97.7	-	97.7	97.8	97.7	-
Pre-Split Project Expenditures	44.9	-	44.9	44.9	44.9	-
Non-project Specific Costs	20.0	(8.0)	12.0	3.2	12.0	-
Total	162.6	(8.0)	154.6	145.9	154.6	-
Subtotal Capital Outlay Support	959.3	218.0	1,177.3	988.7	1,275.8	98.5
Subtotal Capital Outlay Construction	4,492.2	589.4	5,081.6	3,965.9	5,164.4	82.8
Other Budgeted Capital	35.1	(3.3)	31.8	0.7	7.7	(24.1)
Total SFOBB East Span Replacement Project ¹	5,486.6	804.1	6,290.7	4,955.3	6,447.9	157.2

¹ Figures may not sum up to totals due to rounding effects.

Appendix C: Regional Measure 1 Program Cost Detail (\$ Millions)

Contract	AB 144 / SB 66 Budget (07/2005)	Approved Changes	Current Approved Budget (08/2011)	Cost to Date (08/2011)	Cost Forecast (08/2011)	At- Completion Variance
a	c	d	e = c + d	f	g	h = g - e
New Benicia-Martinez Bridge Project						
New Bridge						
Capital Outlay Support						
BATA Funding	84.9	7.2	92.1	91.9	92.1	-
Non-Bata Funding	-	0.1	0.1	0.1	0.1	-
Subtotal	84.9	7.3	92.2	92.0	92.2	-
Capital Outlay Construction			-			-
BATA Funding	661.9	94.6	756.5	753.7	756.5	-
Non-Bata Funding	10.1	-	10.1	10.1	10.1	-
Subtotal	672.0	94.6	766.6	763.8	766.6	-
Total	756.9	101.9	858.8	855.8	858.8	-
I-680/I-780 Interchange Reconstruction						
Capital Outlay Support						
BATA Funding	24.9	5.2	30.1	30.1	30.1	-
Non-Bata Funding	1.4	5.2	6.6	6.3	6.6	-
Subtotal	26.3	10.4	36.7	36.4	36.7	-
Capital Outlay Construction						
BATA Funding	54.7	26.9	81.6	77.1	81.6	-
Non-Bata Funding	21.6	-	21.6	21.7	21.7	0.1
Subtotal	76.3	26.9	103.2	98.8	103.3	0.1
Total	102.6	37.3	139.9	135.2	140.0	0.1
I-680/Marina Vista Interchange Reconstruction						
Capital Outlay Support	18.3	1.9	20.2	20.2	20.2	-
Capital Outlay Construction	51.5	4.9	56.4	56.1	56.4	-
Total	69.8	6.8	76.6	76.3	76.6	-
New Toll Plaza and Administration Building						
Capital Outlay Support	11.9	3.8	15.7	15.7	15.7	-
Capital Outlay Construction	24.3	2.0	26.3	25.1	26.3	-
Total	36.2	5.8	42.0	40.8	42.0	-
Existing Bridge & Interchange Modifications						
Capital Outlay Support						
BATA Funding	4.3	13.7	18.0	18.0	18.0	-
Non-Bata Funding	-	0.9	0.9	0.8	0.9	-
Subtotal	4.3	14.6	18.9	18.8	18.9	-
Capital Outlay Construction						
BATA Funding	17.2	32.8	50.0	37.2	50.0	-
Non-Bata Funding	-	9.5	9.5	-	9.5	-
Subtotal	17.2	42.3	59.5	37.2	59.5	-
Total	21.5	56.9	78.4	56.0	78.4	-
Other Contracts						
Capital Outlay Support	11.4	(0.9)	10.5	9.6	10.5	-
Capital Outlay Construction	20.3	3.3	23.6	18.5	23.6	-
Capital Outlay Right-of-Way	20.4	(0.1)	20.3	17.0	20.3	-
Total	52.1	2.3	54.4	45.1	54.4	-

Appendix C: Regional Measure 1 Program Cost Detail (\$ Millions) Cont.

Contract	AB 144 / SB 66 Budget (07/2005)	Approved Changes	Current Approved Budget (08/2011)	Cost to Date (08/2011)	Cost Forecast (08/2011)	At- Completion Variance
a	c	d	e = c + d	f	g	h = g - e
New Benicia-Martinez Bridge Project continued...						
Subtotal BATA Capital Outlay Support	155.7	30.9	186.6	185.5	186.6	-
Subtotal BATA Capital Outlay Construction	829.9	164.5	994.4	967.7	994.4	-
Subtotal Capital Outlay Right-of-Way	20.4	(0.1)	20.3	17.0	20.3	-
Subtotal Non-BATA Capital Outlay Support	1.4	6.2	7.6	7.2	7.6	-
Subtotal Non-BATA Capital Outlay Construction	31.7	9.5	41.2	31.8	41.3	0.1
Project Reserves	20.8	1.6	22.4	-	22.3	(0.1)
Total New Benicia-Martinez Bridge Project						
Notes:	Includes EAs 00601_,00603_,00605_,00606_,00608_,00609_,0060A_,0060C_,0060E_,0060F_,0060G_,0060H_, and all Project Right-of-Way					
Carquinez Bridge Replacement Project						
New Bridge						
Capital Outlay Support	60.5	(0.3)	60.2	60.2	60.2	-
Capital Outlay Construction	253.3	2.7	256.0	255.9	256.0	-
Total	313.8	2.4	316.2	316.1	316.2	-
Crockett Interchange Reconstruction						
Capital Outlay Support	32.0	(0.1)	31.9	31.9	31.9	-
Capital Outlay Construction	73.9	(1.9)	72.0	71.9	72.0	-
Total	105.9	(2.0)	103.9	103.8	103.9	-
Existing 1927 Bridge Demolition						
Capital Outlay Support	16.1	(0.3)	15.8	15.8	15.8	-
Capital Outlay Construction	35.2	-	35.2	34.8	35.2	-
Total	51.3	(0.3)	51.0	50.6	51.0	-
Other Contracts						
Capital Outlay Support	15.8	0.9	16.7	16.5	16.7	-
Capital Outlay Construction	18.8	(1.2)	17.6	16.4	17.6	-
Capital Outlay Right-of-Way	10.5	(0.1)	10.4	9.9	10.4	-
Total	45.1	(0.4)	44.7	42.8	44.7	-
Subtotal BATA Capital Outlay Support						
Subtotal BATA Capital Outlay Construction	124.4	0.2	124.6	124.4	124.6	-
Subtotal Capital Outlay Right-of-Way	381.2	(0.4)	380.8	379.0	380.8	-
Project Reserves	10.5	(0.1)	10.4	9.9	10.4	-
	12.1	(9.7)	2.4	-	2.4	-
Total Carquinez Bridge Replacement Project ¹						
Notes						
Other Contracts include EAs 01301_,01302_,01303_,01304_,01305_,01306_,01307_,01308_,01309_,0130A_,0130C_,0130D_,0130F_,0130G_,0130H_,0130J_,00453_,00493_,04700_,00607_,2A270_,and 29920_ and all Project Right-of-Way						

¹ Figures may not sum up to totals due to rounding effects.

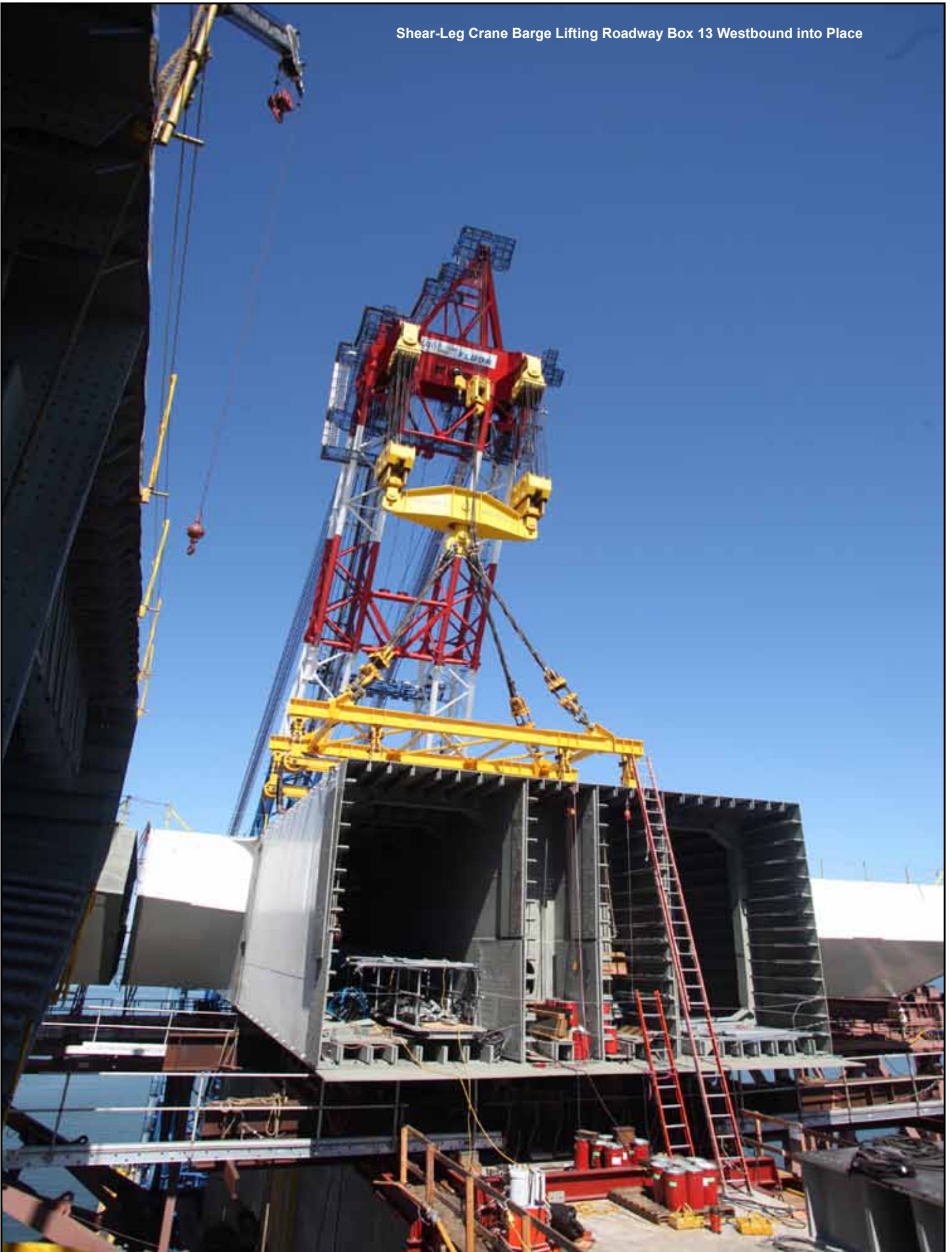
Appendix C: Regional Measure 1 Program Cost Detail (\$ Millions) Cont.

Contract	AB 144 / SB 66 Budget (07/2005)	Approved Changes	Current Approved Budget (08/2011)	Cost to Date (08/2011)	Cost Forecast (08/2011)	At- Completion Variance
a	c	d	e = c + d	f	g	h = g - e
Richmond-San Rafael Bridge Trestle. Fender, and Deck Joint Rehabilitation						
Capital Outlay Support						
BATA Funding	2.2	(0.8)	1.4	1.4	1.4	-
Non-BATA Funding	8.6	1.8	10.4	10.4	10.4	-
Subtotal	10.8	1.0	11.8	11.8	11.8	-
Capital Outlay Construction						
BATA Funding	40.2	(6.8)	33.4	33.3	33.4	-
Non-BATA Funding	51.1	-	51.1	51.1	51.1	-
Subtotal	91.3	(6.8)	84.5	84.4	84.5	-
Project Reserves	-	0.8	0.8	-	0.8	-
Total	102.1	(5.0)	97.1	96.2	97.1	-
Richmond-San Rafael Bridge Deck Overlay Rehabilitation						
Capital Outlay Support						
BATA Funding	4.0	(0.7)	3.3	3.3	3.3	-
Non-BATA Funding	4.0	(4.0)	-	-	-	-
Subtotal	8.0	(4.7)	3.3	3.3	3.3	-
Capital Outlay Construction	16.9	(0.6)	16.3	16.3	16.3	-
Project Reserves	0.1	0.3	0.4	-	0.4	-
Total	25.0	(5.0)	20.0	19.6	20.0	-
Richmond Parkway Project (RM 1 Share Only)						
Capital Outlay Support	-	-	-	-	-	-
Capital Outlay Construction	5.9	-	5.9	4.3	5.9	-
Total	5.9	-	5.9	4.3	5.9	-
San Mateo-Hayward Bridge Widening						
Capital Outlay Support	34.6	(0.5)	34.1	34.1	34.1	-
Capital Outlay Construction	180.2	(6.1)	174.1	174.1	174.1	-
Capital Outlay Right-of-Way	1.5	(0.9)	0.6	0.5	0.6	-
Project Reserves	1.5	(0.5)	1.0	-	1.0	-
Total	217.8	(8.0)	209.8	208.7	209.8	-
I-880/SR-92 Interchange Reconstruction						
Capital Outlay Support	28.8	35.8	64.6	60.4	64.6	-
Capital Outlay Construction						
BATA Funding	85.2	68.4	153.6	140.8	153.6	-
Non-BATA Funding	9.6	-	9.6	-	9.6	-
Subtotal	94.8	68.4	163.2	140.8	163.2	-
Capital Outlay Right-of-Way	9.9	7.3	17.2	14.6	17.2	-
Project Reserves	0.3	(0.3)	-	-	-	-
Total	133.8	111.2	245.0	215.8	245.0	-
Bayfront Expressway Widening						
Capital Outlay Support	8.6	(0.2)	8.4	8.4	8.4	-
Capital Outlay Construction	26.5	(1.5)	25.0	24.9	25.0	-
Capital Outlay Right-of-Way	0.2	-	0.2	0.2	0.2	-
Project Reserves	0.8	(0.3)	0.5	-	0.5	-
Total	36.1	(2.0)	34.1	33.5	34.1	-

Appendix C: Regional Measure 1 Program Cost Detail (\$ Millions) Cont.

Contract	AB 144 / SB 66 Budget (07/2005)	Approved Changes	Current Approved Budget (08/2011)	Cost to Date (08/2011)	Cost Forecast (08/2011)	At- Completion Variance
a	c	d	e = c + d	f	g	h = g - e
US 101/University Avenue Interchange Modification						
Capital Outlay Support	-	-	-	-	-	-
Capital Outlay Construction	3.8	-	3.8	3.7	3.8	-
Total	3.8	-	3.8	3.7	3.8	-
Subtotal BATA Capital Outlay Support	358.3	64.7	423.0	417.5	423.0	-
Subtotal BATA Capital Outlay Construction	1,569.8	217.5	1,787.3	1,744.1	1,787.3	-
Subtotal Capital Outlay Right-of-Way	42.5	6.2	48.7	42.2	48.7	-
Subtotal Non-BATA Capital Outlay Support	14.0	4.0	18.0	17.6	18.0	-
Subtotal Non-BATA Capital Outlay Construction	92.4	9.5	101.9	82.9	102.0	0.1
Project Reserves	35.6	(8.1)	27.5	-	27.4	(0.1)
Total RM1 Program	2,112.6	293.8	2,406.4	2,304.3	2,406.4	-
Notes:						
1 Richmond-San Rafael Bridge Trestle, Fender, and Deck Joint Rehabilitation Includes Non-TBSRP Expenses for EA 0438U_ and 04157_						
2 San Mateo-Hayward Bridge Widening includes EAs 00305_,04501_,04503_,04504_,04504_,04505_,04506_,04507_,04508_,04509_,27740_,27790_,04860_						

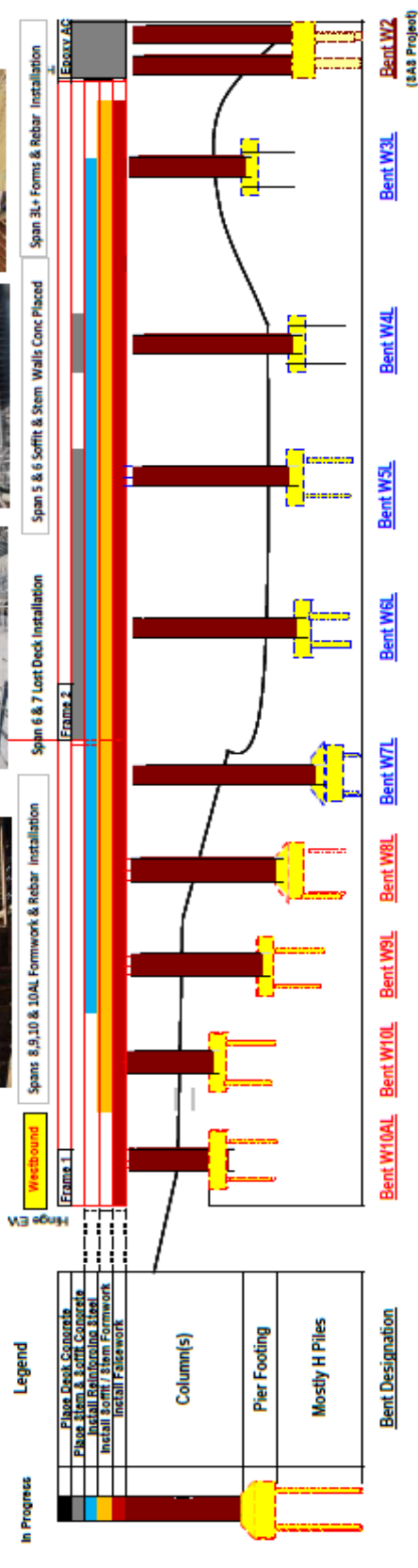
Shear-Leg Crane Barge Lifting Roadway Box 13 Westbound into Place



Appendix D: Progress Diagrams

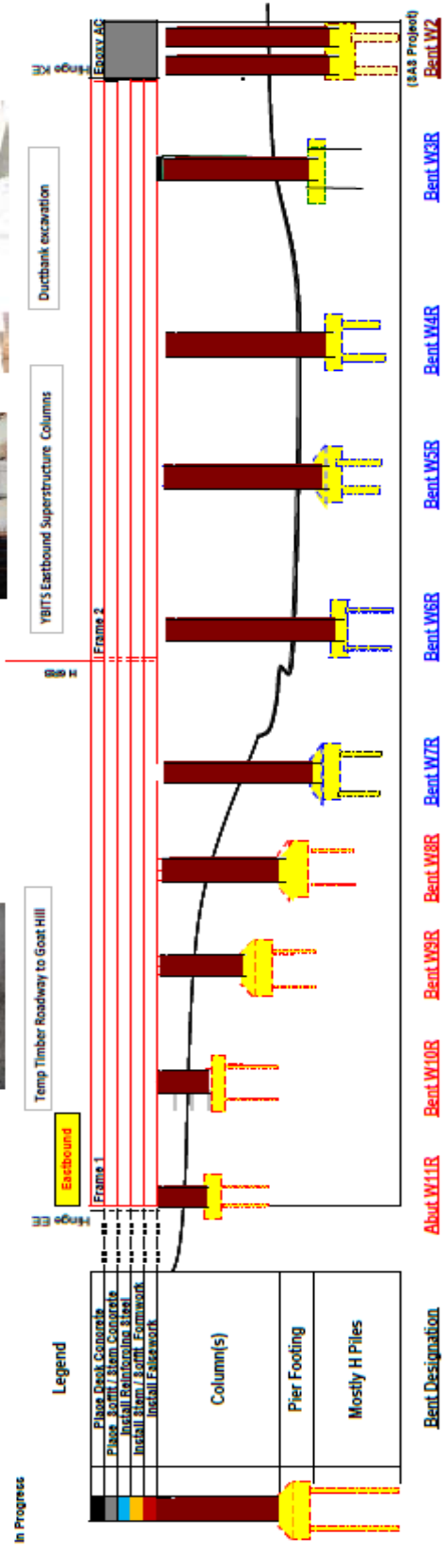
Yerba Buena Island Transition Structures

SFOBB SEISMIC RETROFIT PROJECT YBITS #1 PROGRESS DIAGRAM as of August 26, 2011

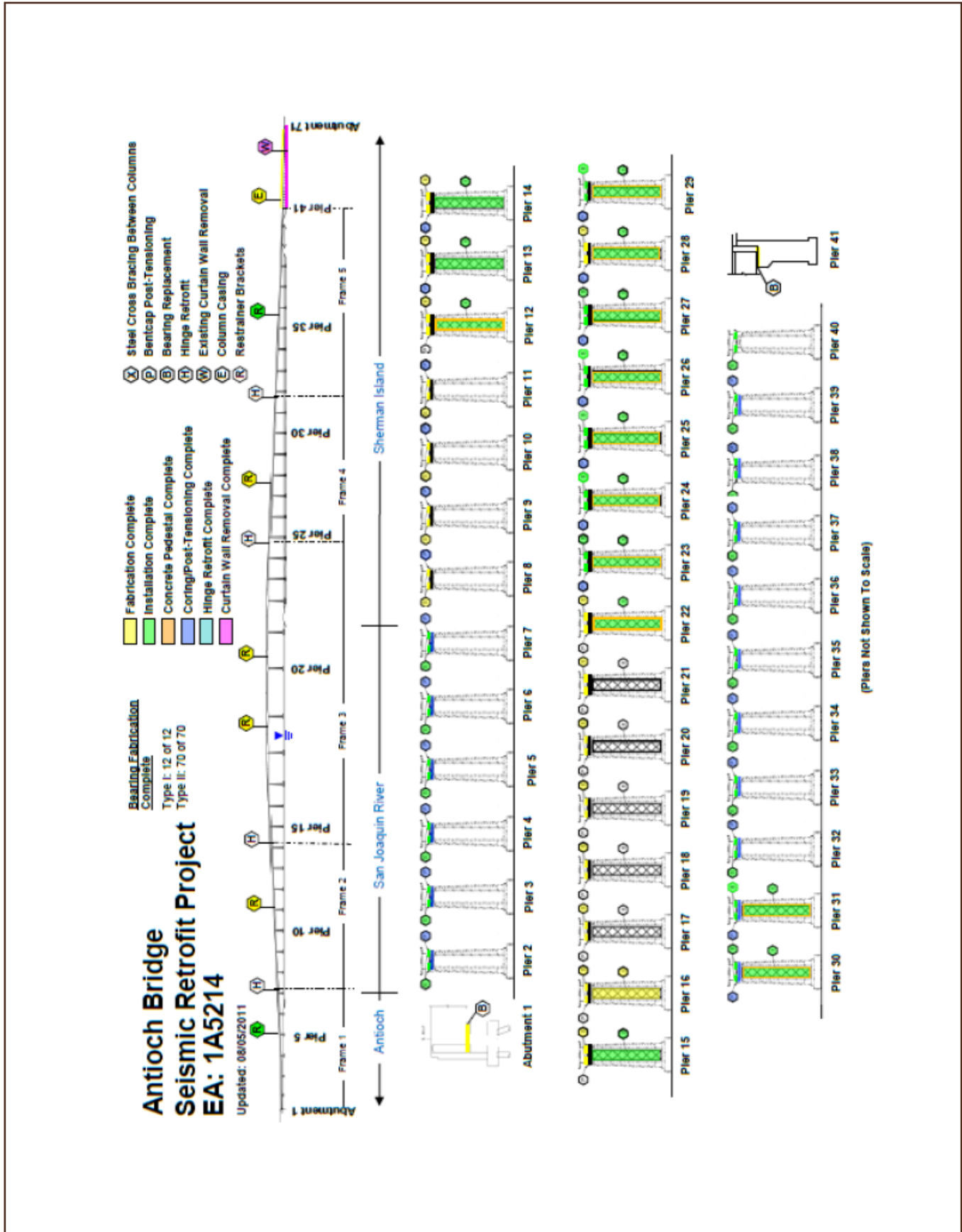


Note:

1. W10AL, W10L, W8L, W6L, W7L & W5L all have North and South Columns.
2. EB On Ramp Structure is not included in this Diagram
3. Progress Shown is based on North Columns



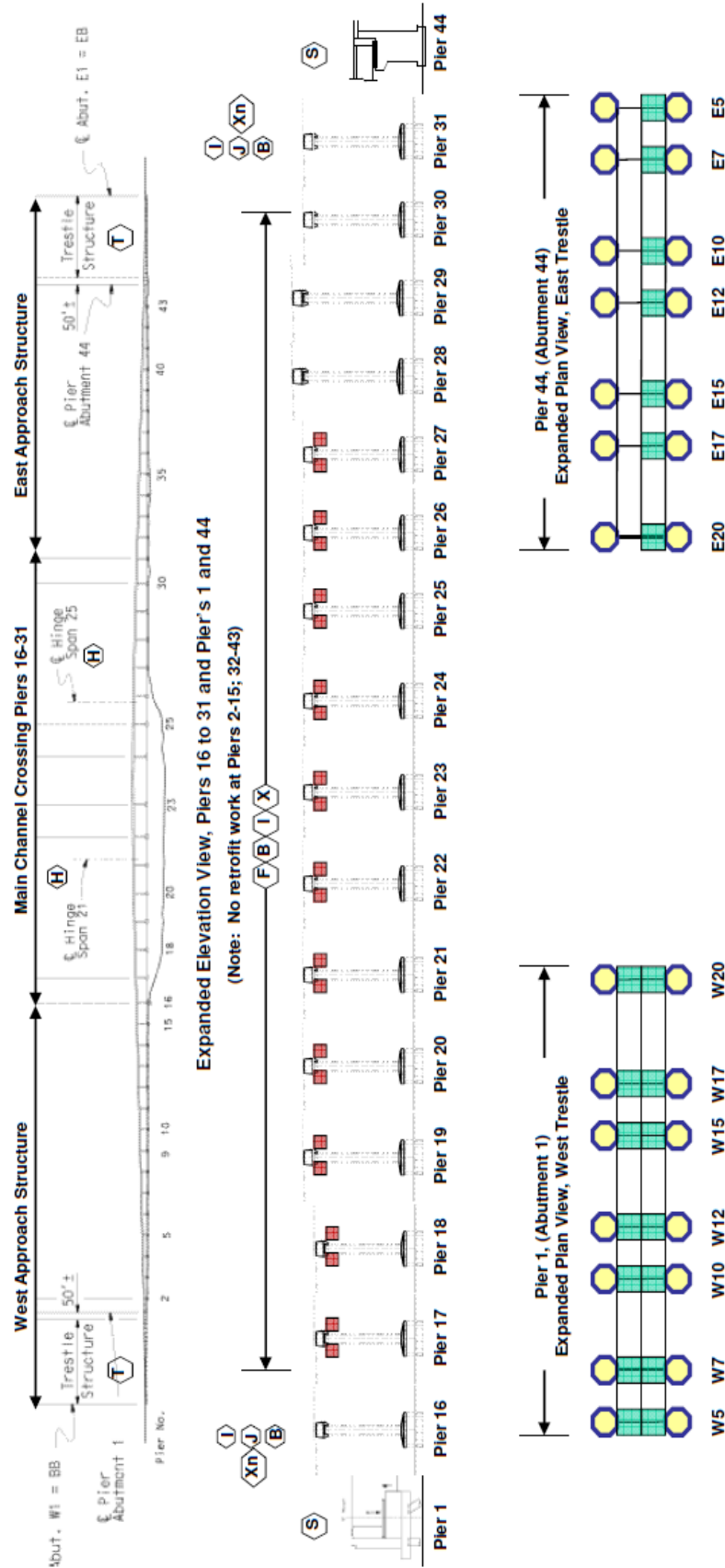
Appendix D: Progress Diagrams (cont.) Antioch Bridge



Dumbarton Bridge Seismic Retrofit Project EA: 04-1A5224

Updated: 6/3/2011

- | | | |
|----------------------------|----------------------------|----------------------------|
| Abutment Retrofit Complete | Trestle Piles Complete | Backwall Seat Retrofit |
| Footing Overlay Complete | Trestle Bent Caps Complete | Trestle Retrofit |
| Pier Cap Retrofit Complete | Trestle Columns Complete | New Steel Cross Frame |
| Hinge Retrofit Complete | Temp Platforms Installed | Pier Cap Retrofit |
| Isolation Bearing Complete | Bearing Fabrication Status | Footing Overlay |
| Steel Cross Frame Complete | Bearings: 0 of 96 | Isolation Bearing |
| | | Steel Cross Frame Retrofit |
| | | Hinge Retrofit |
| | | Seismic Joint |



(Piers Not Shown To Scale)





Project Photos



Removing the Shackle from Crossbeam 18 after It Was Placed
on top of the E2 Cap Beam

Appendix E: Project Progress Photographs

Self-Anchored Suspension Bridge Field Work



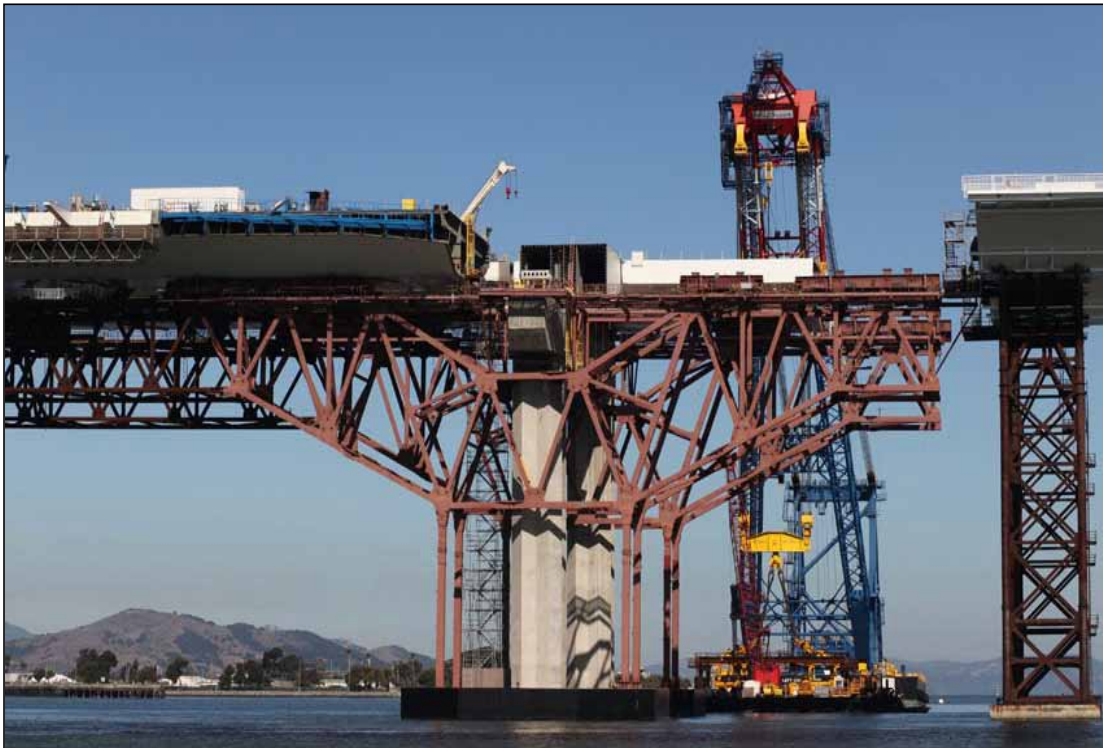
Cable Hauling System at South with Deviation Saddle



Tower Saddle with the Working Platform Prior to the Hauling System Being Installed



Crossbeam 18 Erection with the Two Main Span Catwalks Installed



Shear-Leg Crane Barge with Roadway Box 13 Westbound and Crossbeam 18





Removing the Shackle from Crossbeam 18 after It Was Placed on top of the E2 Cap Beam

Appendix E: Project Progress Photographs

92/880 Interchange



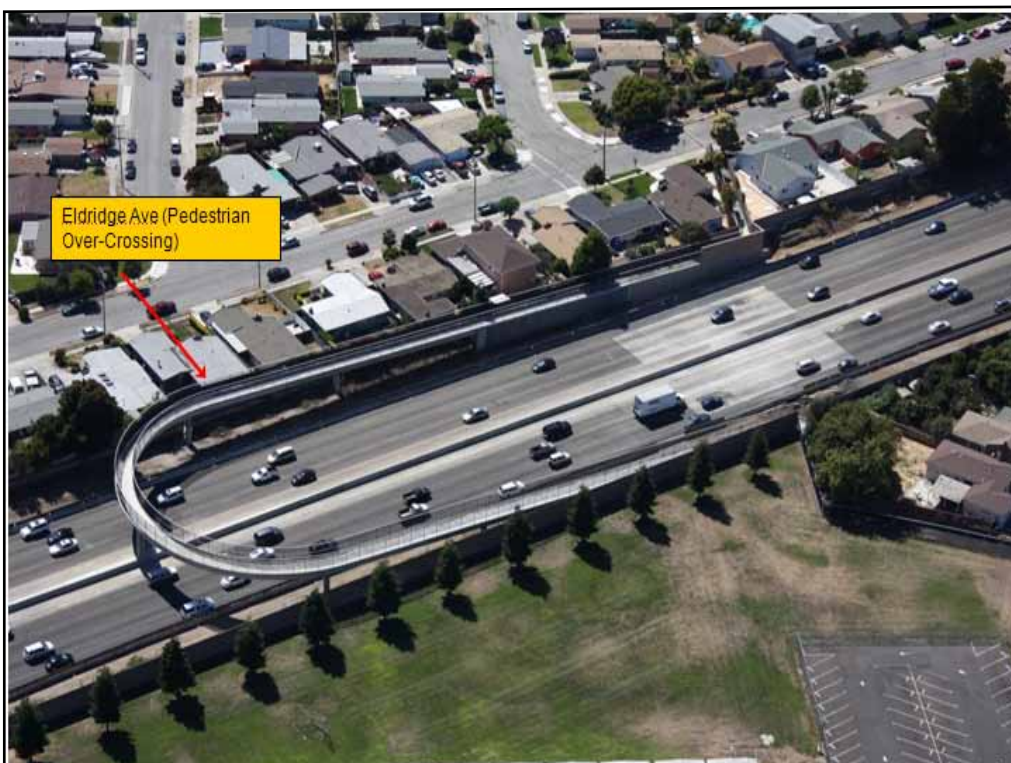
Under Drain Installation in Progress along J-7 Line



WSCONN Bridge Construction in Progress



Simulation of SR 880 Looking South



SR-92 Eldridge Avenue Pedestrian Over-Crossing

Appendix E: Project Progress Photographs

Antioch Bridge



Antioch Bridge -Sherman Island Piers Required a Temporary Construction Access Road Due to Soft Underlying Soils and Agricultural Flooding of Fields during Summer Months (Upper Photos Show Temporary Access Road in the Flooded and Dry Conditions)

Appendix E: Project Progress Photographs

Dumbarton Bridge



Dumbarton Bridge - Core Drilling of Bent Caps for Addition of Reinforcing Steel



Dumbarton Bridge - Wall Being Cast for Pump Station

Appendix E: Project Progress Photographs

Oakland Detour



Strap Beam Formed for Bents 30, 31 and 32



Footings Forms, Piles and Rock Base for Bent 34 and Footing Excavation for Bent 35



Lead Abatement for Bent 34 Structural Steel



Strap Beam Form and Rebar for Installed Bent 31



Aerial View of the Newly Opened Eastbound Oakland Detour with the EBMUD Outfall Crossing Structure on the right, the Relocated Clear Channel Sign and the Westbound Oakland Detour under Construction

Appendix E: Project Progress Photographs

Yerba Buena Island Transition Structure #1 Westbound



Yerba Buena Island Transition Structures #1 Westbound Formwork Looking West



Hinge K Interface between the Self-Anchored Suspension Bridge and Yerba Buena Island Transition Structure #1 Westbound



Yerba Buena Island Transition Structures #1 Westbound Falsework Looking West

Appendix F: Glossary of Terms

Glossary of Terms

AB144/SB 66 BUDGET: The planned allocation of resources for the Toll Bridge Seismic Retrofit Program, or subordinate projects or contracts, as provided in Assembly Bill 144 and Senate Bill 66, signed into law by Governor Schwarzenegger on July 18, 2005 and September 29, 2005, respectively.

BATA BUDGET: The planned allocation of resources for the Regional Measure 1 Program, or subordinate projects or contracts as authorized by the Bay Area Toll Authority as of June 2005.

APPROVED CHANGES: For cost, changes to the AB144/SB 66 Budget or BATA Budget as approved by the Bay Area Toll Authority Commission. For schedule, changes to the AB 144/SB 66 Project Complete Baseline approved by the Toll Bridge Program Oversight Committee, or changes to the BATA Project Complete Baseline approved by the Bay Area Toll Authority Commission.

CURRENT APPROVED BUDGET: The sum of the AB144/SB66 Budget or BATA Budget and Approved Changes.

COST TO DATE: The actual expenditures incurred by the program, project or contract as of the month and year shown.

COST FORECAST: The current forecast of all of the costs that are projected to be expended so as to complete the given scope of the program, project, or contract.

AT COMPLETION VARIANCE or VARIANCE (cost): The mathematical difference between the Cost Forecast and the Current Approved Budget.

AB 144/SB 66 PROJECT COMPLETE BASELINE: The planned completion date for the Toll Bridge Seismic Retrofit Program or subordinate projects or contracts.

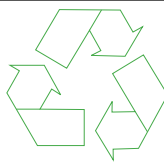
BATA PROJECT COMPLETE BASELINE: The planned completion date for the Regional Measure 1 Program or subordinate projects or contracts.

PROJECT COMPLETE CURRENT APPROVED SCHEDULE: The sum of the AB144/SB66 Project Complete Baseline or BATA Project Complete Baseline and Approved Changes.

PROJECT COMPLETE SCHEDULE FORECAST: The current projected date for the completion of the program, project, or contract.

SCHEDULE VARIANCE or VARIANCE (schedule): The mathematical difference expressed in months between the Project Complete Schedule Forecast and the Project Complete Current Approved Schedule.

% COMPLETE: % Complete is based on an evaluation of progress on the project, expenditures to date, and schedule.



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The information in this report is provided in accordance with California Government code Section 755. This document is one of a series of reports prepared for the Bay Area Toll Authority (BATA)/Metropolitan Transportation Commission (MTC) for the Toll Bridge Seismic Retrofit and Regional Measure 1 Programs. The contract value for the monitoring efforts, technical analysis, and field site works that contribute to these reports, as well as the report preparation and production is \$1,574,873.73.





The San Francisco-Oakland Bay Bridge's Self-Anchored Suspension Bridge at Twilight

